SERVICE MANUAL

marantz®

model SD1010/SD1020/SD3020

Stereo Cassette Deck

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ Company has created the ultimate in stereo sound. Only original MARANTZ parts can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ stereo are generally available within 72 hours throughout the nation via a toll-free line to our National Parts Depot in California. The sales professionals who take your call immediately refer to their own desk top computer terminal and can quickly determine the availability and price information you require. If, for some reason, your order should exceed our available stock, we usually can instantly provide an alternate replacement part or current delivery information. When the order is placed and confirmed, the computer simultaneously generates "hard copy" orders at the distribution center. As hard copies come directly from the computer to the national parts depot, your requested stock is assembled and prepared for shipment and placed on the first available carrier for delivery to you.

ORDERING PARTS

Phone orders will eliminate mail delays, and we encourage the use of this method. If you order by mail, use MARANTZ parts order forms which are available from our National Parts Depot located at the following address:

SUPERSCOPE NATIONAL PARTS DEPARTMENT
20525 Nordhoff Street
Chatsworth, California 91311
Phone: 1-800-423-5108
1-213-998-9333

The following information must be supplied to eliminate delays in processing your order:

1. Complete address.
2. Complete part numbers.
3. Complete description of parts.
4. Model number for which part is required (indicate MARANTZ).
5. Account number (for account customers only).

Direct consumers will be provided with the current retail price quotation on available parts in order to advise them of the cost of the parts and shipping.

OVERSEAS PARTS ORDERING

Parts may also be ordered from the following overseas addresses:

CANADA

Superscope Canada, Ltd.
3710 Nashua Drive
Mississauga
Ontario, Canada L4V1M5

AUSTRALIA

Superscope (Australasia) Pty., Ltd.
32 Cross Street (P.O. Box 604)
Brookvale 2100 N.S.W.
Australia

JAPAN

Marantz Japan, Inc
3622 Kamitsuruma
Sagamihara Shi
Kanagawa, Japan

EUROPE

Superscope Europe, S.A.
Avenue Leopold III, 2
7120 Peronnes-Lez-Binche
Belgium

Marantz France
Rue Louis Armand 9
92600 Asnieres
Hauts-de-Seine
France

Marantz Audio U.K. Ltd.
London Road, 203
Staines
Middlesex
England

Superscope GmbH
Max-Planck-Strasse 22
D-6072 Dreieich 1
West Germany

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please contact the nearest facility for the necessary assistance.

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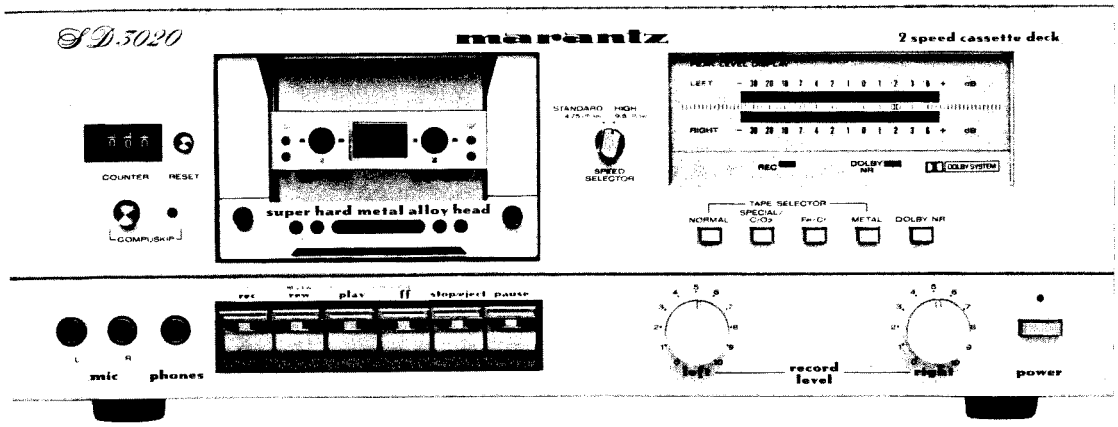
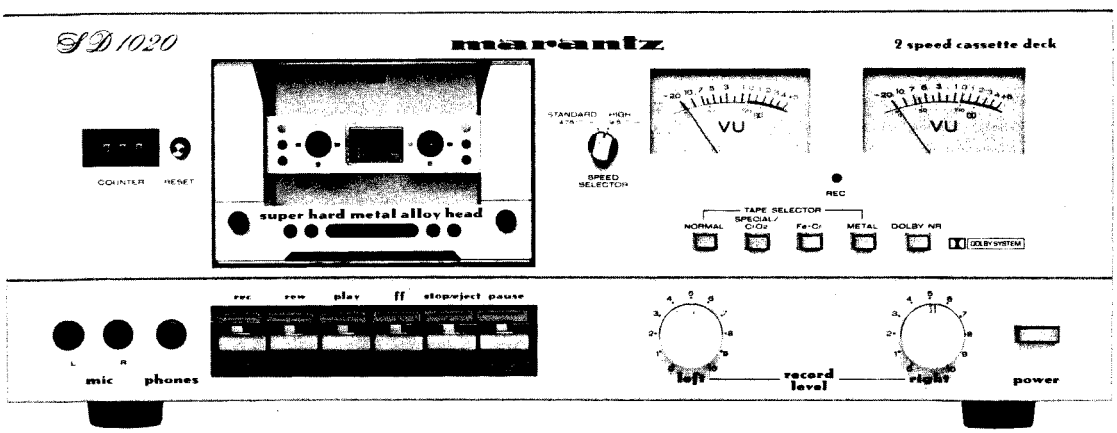
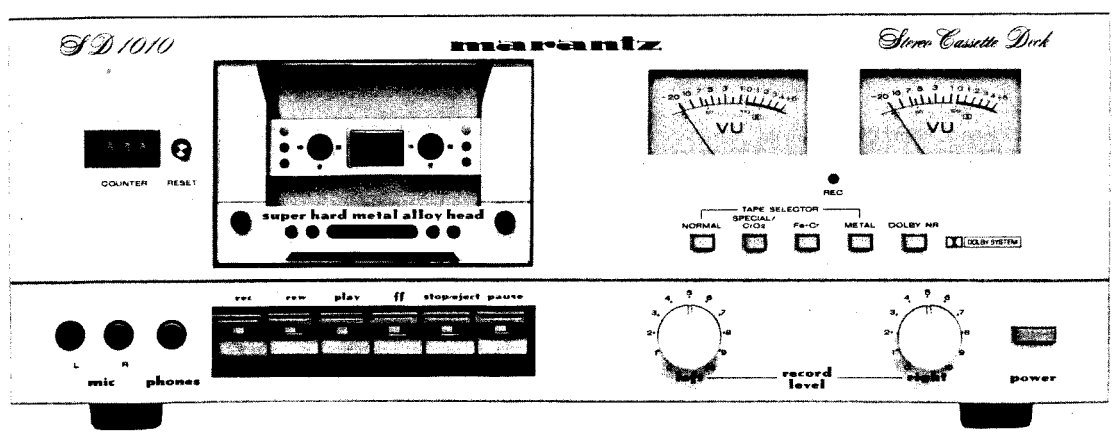
MARANTZ MODEL SD3020 STEREO CASSETTE DECK



MARANTZ MODEL SD1020 STEREO CASSETTE DECK



MARANTZ MODEL SD1010 STEREO CASSETTE DECK



INTRODUCTION

This service manual are prepared for use by Authorized Warranty Station and contains service information for Marantz Stereo Cassette Deck.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation of the Cassette Deck.

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A simple description is included for parts which can be usually obtained through local suppliers.

1. P.W. BOARDS

As can be seen from the circuit diagram, the chassis of your Cassette Deck consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Pre Amp . . . . . mounted on P.W. Board PK1A
2. MIC Amp . . . . . mounted on P.W. Board PK1B
3. Rec. Level . . . . . mounted on P.W. Board PK1C
4. Power LED . . . . . mounted on P.W. Board PK1D (SD3020)
5. Speed Switch . . . . . mounted on P.W. Board PK1E (SD3020 & SD1020)
6. Skip Switch . . . . . mounted on P.W. Board PK1F (SD3020)
7. Skip LED . . . . . mounted on P.W. Board PK1G (SD3020)
8. VU Meter . . . . . mounted on P.W. Board PK1H (SD1010 & SD1020)
9. Transformer . . . . . mounted on P.W. Board PK1I
10. REC/PLAY Switch . . mounted on P.W. Board PK1J

2. TEST EQUIPMENT REQUIRED FOR SERVICING

For measuring or checking your Cassette Deck, the following instruments and materials are necessary.

- VTVM
- Audio Oscillator (AF OSC)
- Attenuator (600 Ω)
- Oscilloscope
- Bandpass Filter (1 kHz)
- IEC A-Curve Filter
- Wow and Flutter Meter
- Torque Meter (Cassette Type)
- Digital Frequency Counter
- Distortion Meter
- Blank Tapes (Completely erased with bulk eraser)
  TDK AC-212 (Normal)
  TDK AC-512 (Special/CrO_2)
  SONY CS-30 (Fe-Cr)
  TDK AC-711 (Metal)

NOTE: If any doubt is noted in a measured value, use new tape.

- Test Tapes (New Tape)
  MTT-111 Wow and Flutter, Tape Speed (1-7/8 I.P.S.)
  MTT-112 Measurements of Output Level and Signal-to-Noise Ratio
  MTT-150 Adjustment of Output Level
  MTT-216 Frequency Response (for Normal)
  MTT-316 Frequency Response (for Special/CrO_2, Fe-Cr, Metal)
  MTT-121 Cross Talk
  MTT-141 Channel Separation
  MTT-111SP Wow and Flutter, Tape Speed [(3-3/4 I.P.S.) SD3020 & SD1020 Only]
  MTT-215M Head Azimuth Adjustment

3. CIRCUIT DESCRIPTION

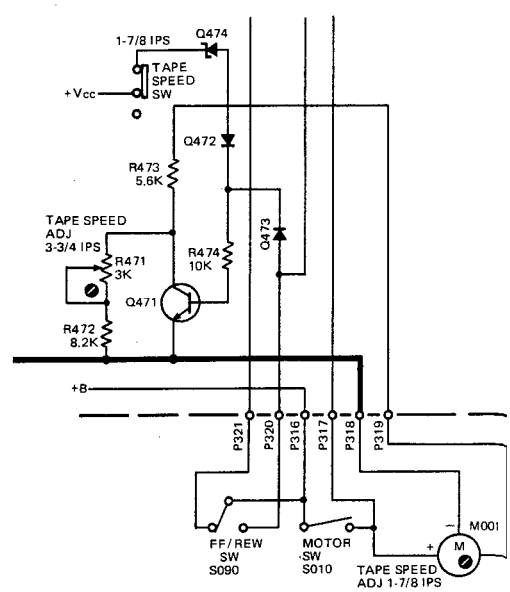
3.1 TAPE SPEED SELECTOR (SD3020 & SD1020 only)

Tape speed is changed by switching the motor speed to 1,800 rpm for 1-7/8 ips or to 3,600 rpm for 3-3/4 ips. In fast-forward or rewind operation, however, the motor always rotates at 1,800 rpm.

1. As shown in the figure below, the motor rotates at 1,800 rpm when R471 (3 kΩ) and R472 (8.2 kΩ) are shorted by transistor switching circuit (S401) (speed selector) or S090 (FF/REW).
2. When R471 and R472 are not shorted, the motor rotates at 3,600 rpm.
3. R471 is used for precisely adjusting the motor speed to 3,600 rpm.
4. To precisely adjust the motor speed to 1,800 rpm, turn the variable resistor built-in the motor.

NOTE: The motor speed is known by playing back the test tape MTT-111 and measuring the reproduced frequency.

Motor speed (rpm)	Reproduced frequency (Hz)
1800	3000
3600	6000



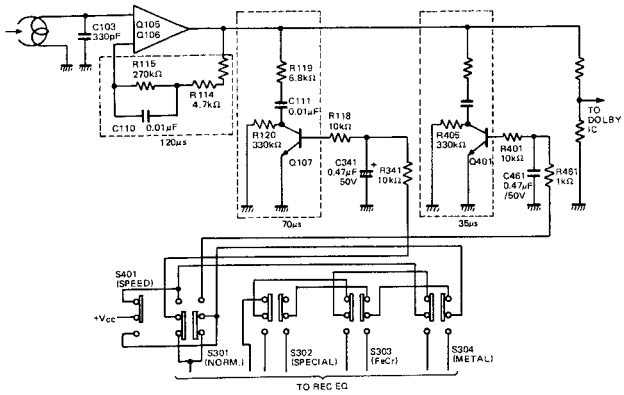
3.2 PLAYBACK TIME CONSTANT

The reason why the playback equalizer time constant is switched is so that any type of tape can have optimum performance at any of the two available tape speeds.

* For SD3020 & SD1020

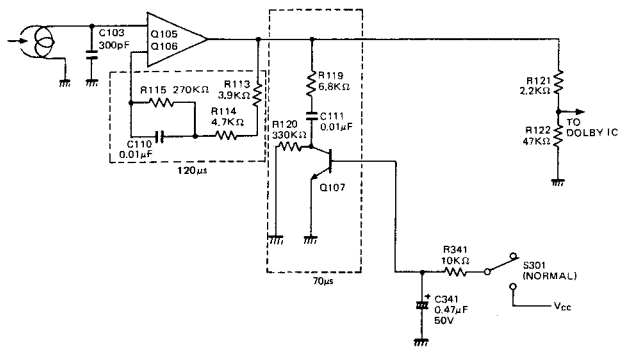
TAPE SPEED (IPS)	TAPE SELECTOR POSITION	TIME CONSTANT (μsec)
1-7/8	NORMAL	120
1-7/8	SPECIAL/FeCr/METAL	70
3-3/4	NORMAL	70
3-3/4	SPECIAL/FeCr/METAL	35

The time constant is selected between 35, 70 and 120 μs using a transistor switching circuit.



* For SD1010

TAPE SELECTOR POSITION	TIME CONSTANT (μsec)
NORMAL	120
SPECIAL/FeCr/METAL	70



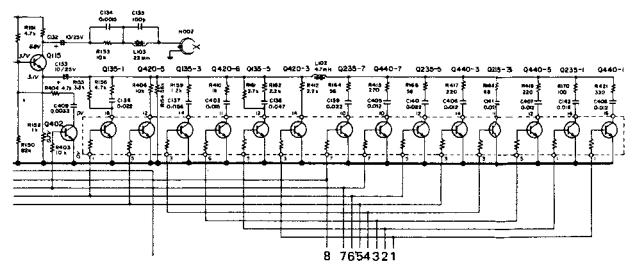
3.3 RECORDING COMPENSATION

The method of recording compensation is the same as that used in our existing units where the amount of feedback in the recording amplifier (Q115) is varied.

TAPE SPEED (IPS)	TAPE SELECTOR POSITION	COMPENSATION
1-7/8	NORMAL	Peaking by L102, R164 and C139 only
1-7/8	SPECIAL (CrO_2)	Rec, CuR, R155, Peaking R166, C140, L102 Mid range R156, C136
1-7/8	Fe-Cr	Peaking R168, C141(L102) Mid range R159, C137
1-7/8	METAL	Rec, CuR, R161, Peaking R170, C142(L102) Mid range R162, C138
*3-3/4	NORMAL	Peaking R415, C405, L102 Mid range R404, C409
*3-3/4	SPECIAL (CrO_2)	Rec, CuR, R406, Peaking R417, C406, L102
*3-3/4	Fe-Cr	Peaking R419, C407, L102 Mid range R410, C403
*3-3/4	METAL	Rec, CuR, R412, Peaking R421, C408, L102

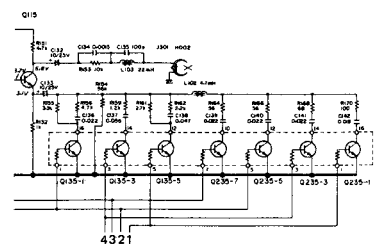
* and bracket ( ) means without SD1010.

* For SD3020 & SD1020



1 3-3/4 METAL 2 1-7/8 METAL 3 3-3/4 FeCr
4 1-7/8 FeCr 5 3-3/4 SPECIAL 6 1-7/8 SPECIAL
7 3-3/4 NORMAL 8 1-3/8 NORMAL

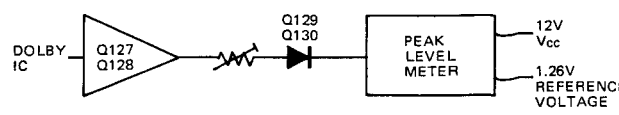
* For SD1010



1 METAL 2 SPECIAL 3 NORMAL 4 Fe Cr

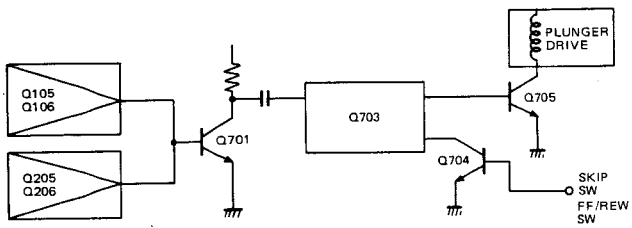
3.4 PEAK LED METER CIRCUIT (SD3020 only)

If the signal amplified and rectified by Q127 through Q130 in the figure is connected to the IC housed in the Peak Meter, then it is compared with the reference voltage. The different voltage illuminates the light.



3.5 SKIPPING CIRCUIT (SD3020 only)

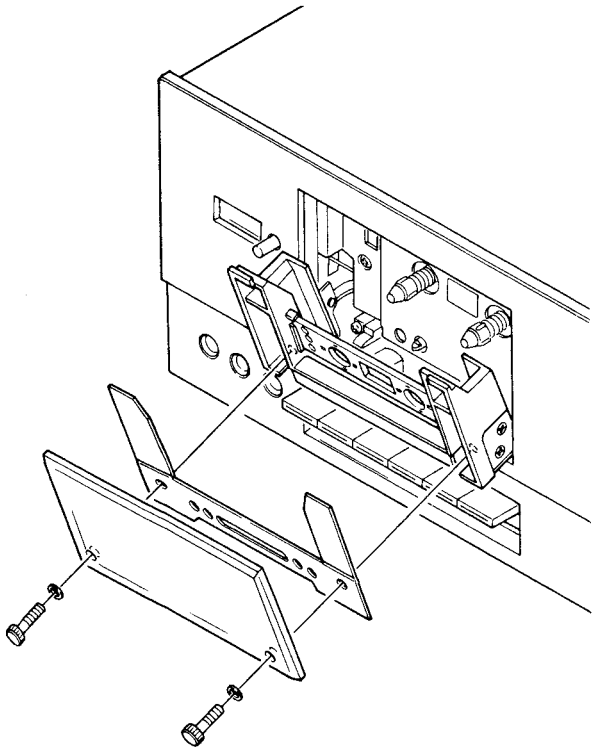
1. Skipping is when a tape with a number of tunes is cued or reviewed in the playback mode by pressing the CUE or REVIEW button. When a non-recorded portion between tunes is detected, the CUE or REVIEW botton is released and playback is restarted.
2. Skipping procedure
   Depress the PLAY button. Holding it depressed in, depress the FF or REW button to lock it, so that the PLAY and the FF or REW buttons are locked.
3. Circuit Operation
   In the skipping operation, as seen from the figure, the right and left channel signals are mixed by Q701. The mixed signal is connected to Q703. If no signal comes from the no-signal recorded portion, then Q705 actuates the solenoid to attract the plunger. Note that Q703 is turned off while Q704 is on.



4. DISASSEMBLY

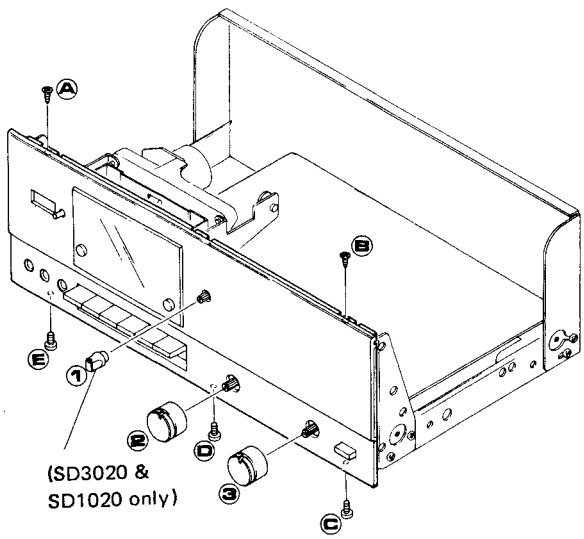
4.1 REMOVING THE CASSETTE CASE ESCUTCHEON

Remove the two screws holding the escutcheon and take this out for removal.



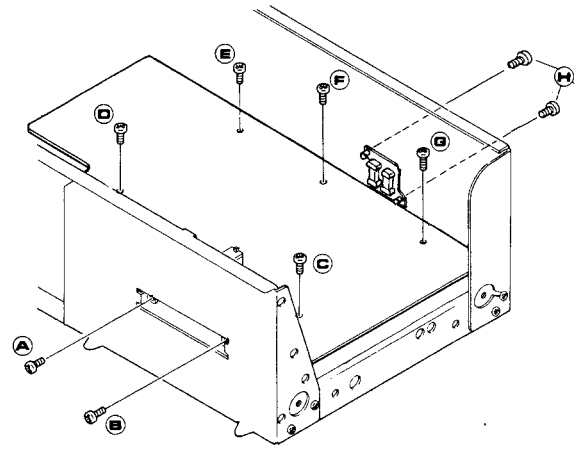
4.2 REMOVING THE FRONT PANEL

Remove the three knobs 1 (in the SD3020 & SD1020), 2, and 3. Then, remove the five screws A, B, C, D, and E.



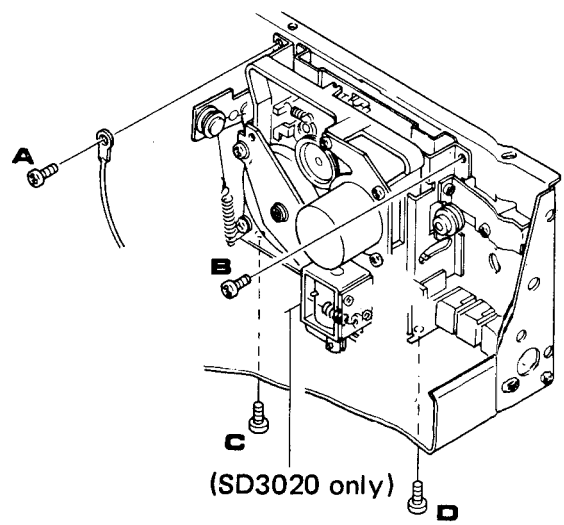
4.3 REMOVING THE PRE AMP P.W. BOARD

Remove the seven screws A, B, C, D, E, F, G and H holding the Pre Amp P.W. board. Then, draw it out with taking care of not applying excessive force to any lead wire.



4.4 REMOVING THE MECHANICAL CHASSIS

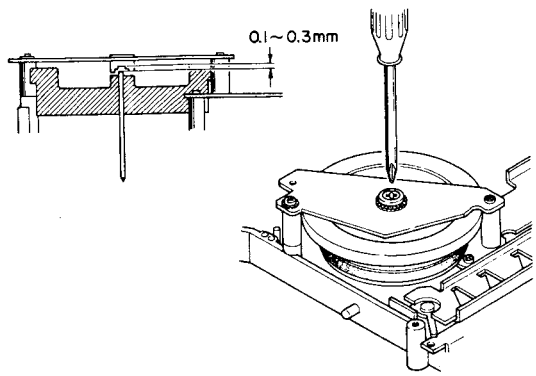
1. Remove the front panel.
2. Remove the four screws A, B, C and D holding the mechanical chassis. Then, draw the chassis out with taking care of the tape counter and operating levers.



5. MECHANICAL ADJUSTMENTS

5.1 ADJUSTING THE FLYWHEEL THRUST

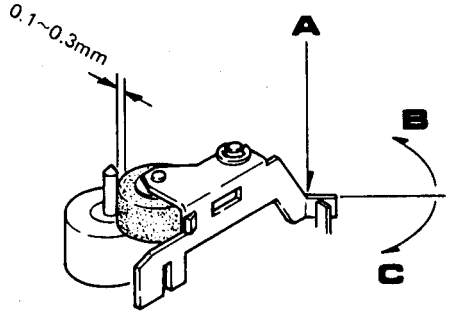
Adjust the thrust screw at the flywheel bracket until the clearance between the capstan tail end and thrust bearing is 0.1 to 0.3 mm as shown, using a phillips screw driver. For adjusting, feel of axial dropping of the flywheel for proper clearance as this cannot be seen through. Then paint the screw to lock.



5.2 ADJUSTING THE PAUSE TIMING

Set the unit in the play mode of operation. Then, adjust the bend angle of the pinch roller bracket arm (point A in the line drawing) until the clerance between the pinch roller and capstan is 0.1 to 0.3 mm at the time when the take-up reel is stopped by slowly pressing the PAUSE pushbutton down.

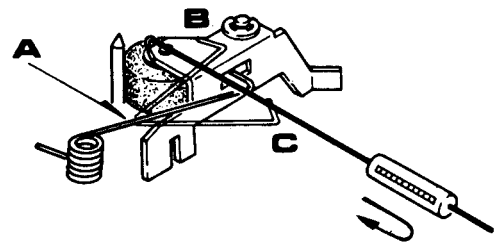
NOTE: **To widen the clearance, make the bend angle smaller (in the direction C). To make the clearance narrower, widen the bend angle (in the direction B).**



5.3 ADJUSTING THE PINCH ROLLER PRESSURE

Measure the pressure of the pinch roller using a gauge as shown. For measurement, draw the pinch roller in the arrow direction in which it is detached from the capstan shaft and gradually return it toward the capstan. Read the gauge at the time when the pinch roller starts turning. The standard pressure is 300±50 g. If the pressure is out of the range, bend the pinch roller spring around the point A in the direction B or C.

NOTE: **To make the pressure strong, bend in the direction B. To make the pressure weak, bend in the direction C.**



5.4 ADJUSTING THE PLAY TIMING

It is normal that when the PLAY pushbutton is depressed, the take-up reel table turns first, then the pinch roller is rotated. The reel table and pinch roller must not start turning at the same time.

NOTE: **Make certain that such a subsequent operation is made irrespective of locking state is depressed slowly without loading the tape.**

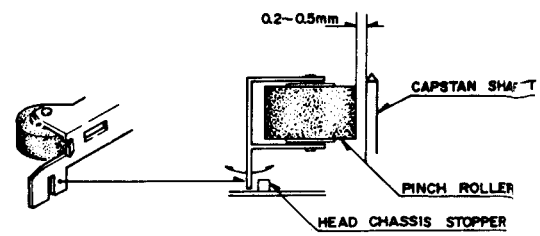
1. Checking for Adjustment

Check whether or not the clearance between the pinch roller and capstan is 0.2 to 0.5 mm when the take-up reel table starts turning with the PLAY pushbutton depressed slowly.

2. Adjustment

Bend the pinch roller bracket at the point that touches the head chassis stopper. In the line drawing, bending left reduces the clearance between the capstan and pinch roller.

NOTE: **Make certain that the pinch roller bracket does not leave touching the head chassis stopper in the play mode of operation as a result of excessive bending.**

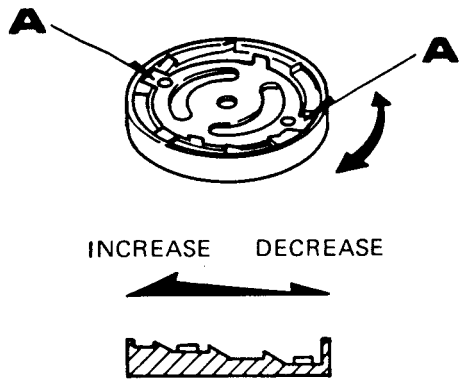


5.5 ADJUSTING THE PLAY TORQUE

Put the two pawls of the circular plate spring on proper stepped position of the reel rest. The adjustable torque range is 40 to 70 g·cm.

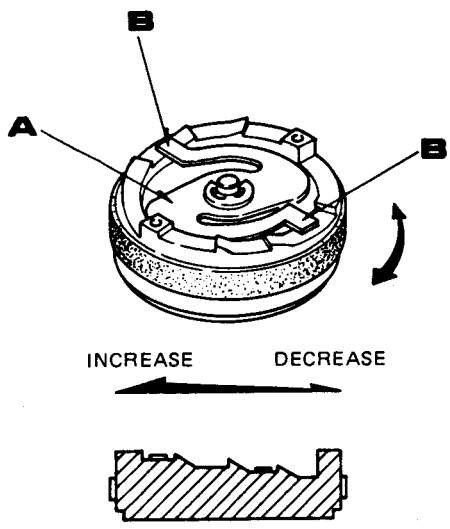
To make the torque high, put the pawls on a shallow step. For lower torque, put them on a deeper step.

- **Checking the take-up clutch for sliding**
  Make certain that the flywheel rotates freely when the reel table is locked. The flywheel that revolves irregularly or stops is not acceptable.



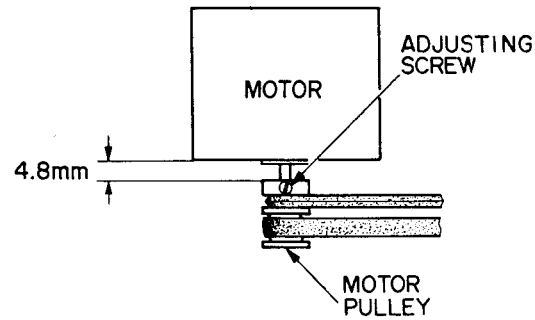
5.6 ADJUSTING THE FAST FORWARD AND REWIND TORQUE

The fast forward and rewind idler has a torque adjust plate spring (part A in the line drawing), which has two pawls (part B) at its ends. Set the pawls in proper one of the three steps. To make the torque high, set the pawls in the shllowest step. For lower torque, set in the deepest step.



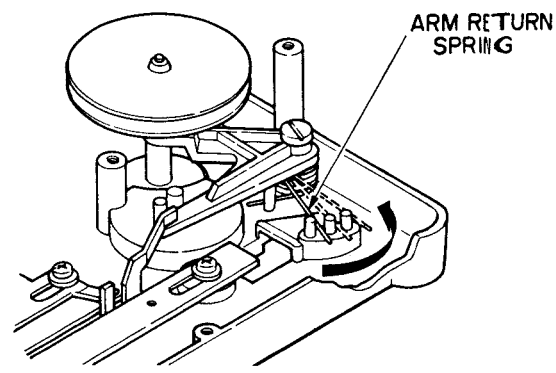
5.7 POSITIONING THE MOTOR PULLEY

Loosen the set screw and adjust the motor pulley position until the clearance between the pulley and motor is 4.8 mm as shown. Tighten the set screw.



5.8 ADJUSTING THE REWIND IDLER SIDE PRESSURE

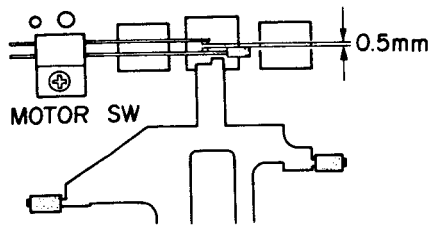
Make certain that in the rewind mode of operation, the rewind idler does not slip on the supply reel table when this is held by hand. If it slips, change the hanging position of the rewind idler arm return spring on the chassis in the arrow direction step by step until it does not slip.



5.9 POSITIONING THE SWITCHES

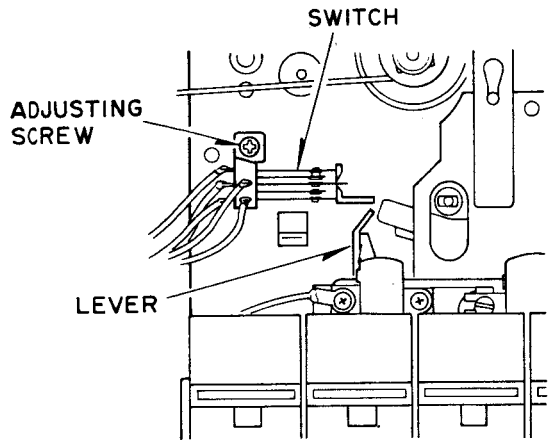
1. Motor Switch

Turn the motor switch in the arrow direction until it is screwed tightly. Make certain that the contact gap is wider than 0.5 mm.



2. FF and REW Switches

The FF and REW switches S090 should be placed in position where they can be actuated as soon as possible when the FF and REW buttons are depressed, respectively.



Caution for Installing the Solenoid L010 (SD3020 Only)

For skipping tape, eighter REW or FF button together with the PLAY button should be depressed to lock. When skipping ends, the skip circuit energizes the solenoid to release the REW or FF button only. If the solenoid is not positioned well, however, this would result in releasing the PLAY button too. In such an event, correct the solenoid position so that the PLAY button cannot be released.

6. ELECTRICAL ADJUSTMENTS

Precautions before Adjustment

1. Before playing the test tape back, thoroughly demagnetize the heads, capstan and similar metal parts using an eraser as the test tape-recorded tone is easily erased.
2. Do not place the test tape on any measuring instrument.
3. Do not put the test tape near a place where the eraser is used.
4. Method of Demagnetization: — Turn the eraser power switch on at a remote position far away from the heads. Bring the eraser close to the heads, capstan and other parts to be demagnetized, and move it up and down four or five times to demagnetize. Slowly separate the eraser far away from the parts, and turn the power switch off.
5. Do not use any magnetized adjusting tool. When using it, demagnetize it from time to time in the course of each adjustment.
6. Do not turn semi-fixed resistor more than needed.
7. Do not apply locking bond excessively.

Definitions

1. The "normal playback state" is an operating state of the tape deck which plays back the MTT-150 test tape and is adjusted so as to produce a 580mV output at the LINE OUTPUT terminal with the load assuming the measuring instrument input impedance of greater than 100 kΩ and with the TAPE SELECTOR switch set at the NORMAL position.
2. The "normal recording state" is an operating state of the tape deck which records a 1 kHz signal to a specified recording level for which the recording level control is adjusted with the 1 kHz signal applied at a specified input level to the MIC terminal.
   In the normal recording state, therefore, this tape deck is set up with the level control to the state that the Peak Level Displays may illuminate to the 0 VU with a 1 kHz, 1 mV input signal applied.

6.1 HEAD AZIMUTH ADJUSTMENT

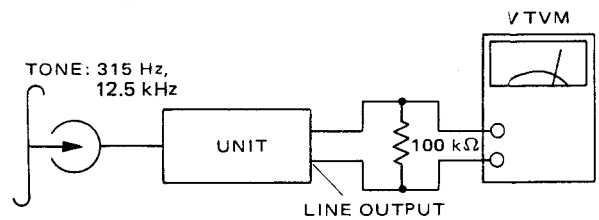
SET UP

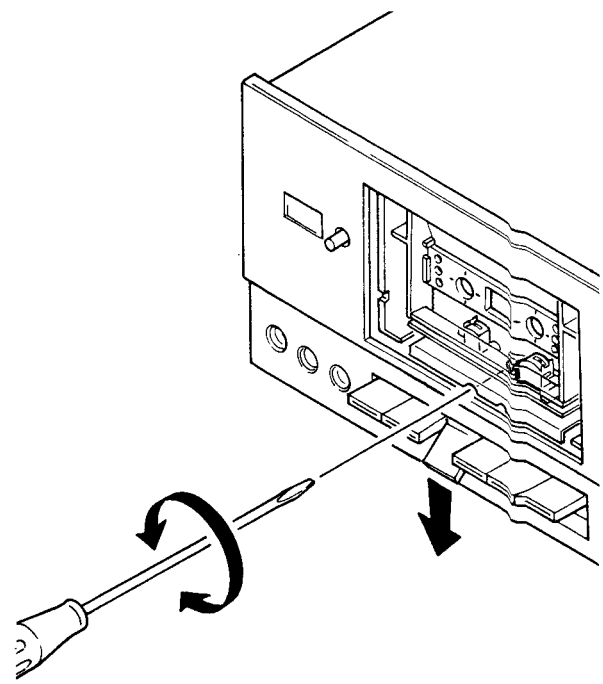
1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. TAPE SELECTOR switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal used:- LINE OUTPUT.
5. Test tape used:- MTT-215M (315 Hz to 12.5 kHz).
6. Tape Speed:- 1-7/8 IPS.

PROCEDURES

1. Play the 315 Hz and 12.5 kHz portions of the test tape MTT-115C back. Adjust the head azimuth adjusting screw for maximum VTVM read.
2. If the peak output reads of the right and left channels are different, set the screws to obtain the mechanical center between the peaks.
3. After adjustment, lock the screw with bond.

Mode: Playback





CAUTION

After adjustment, repeat the playback and stop setting a few times to make certain of no head azimuth deviation.

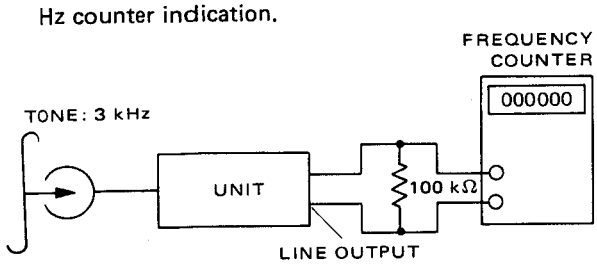
6.2 TAPE SPEED ADJUSTMENT

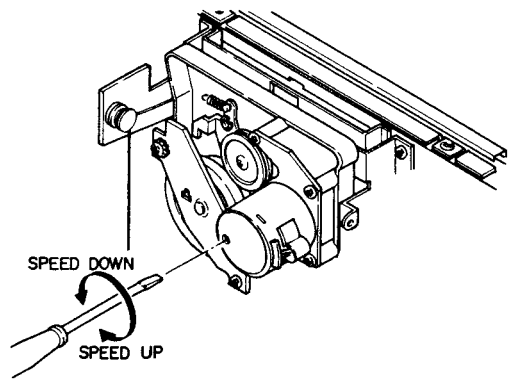
SET UP

1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. Output terminal:- LINE OUTPUT.
3. Test tape used:- MTT-111 (3 kHz Tone) at 1-7/8 IPS.
   MTT-111SP at 3-3/4 IPS.
4. Unit position:- Vertical.

PROCEDURES

1. For 1-7/8 ips, play the mid portion of the test tape MTT-111 back. Adjust the tape speed adjusting variable resistor inside the motor for 2990 to 3010 Hz counter indication.
2. For 3-3/4 ips, play the mid portion of the test tape MTT-111SP back. Adjust R471 for 2990 to 3010 Hz counter indication.





CAUTIONS

1. For adjustment, the tape deck should be set up in the normal operating condition.
2. Do not adjust the variable resistor more turns than needed.
3. Do not proceed with adjustment after the tape deck temperature has changed.
4. If a strong shock or similar vibration is applied to the tape deck after adjustment, make certain that the measured tape speed had not changed.
5. If the tape speed deviation occurs, perform the adjustment again.
6. Be careful that the counter may indicate a wrong value because of too low counter input level.
7. Before adjustment, allow for 30 seconds or more after depressing of the PLAY pushbutton.

NOTE: Be sure to carry out the 1-7/8 ips tape speed adjustment for first.

6.3 METER ADJUSTMENT

SET UP

1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. TAPE SELECTOR switch position:- NORMAL.
3. Input terminal:- Dolby IC (Q111) Pin 3.
4. Tape Speed:- 1-7/8 ips.

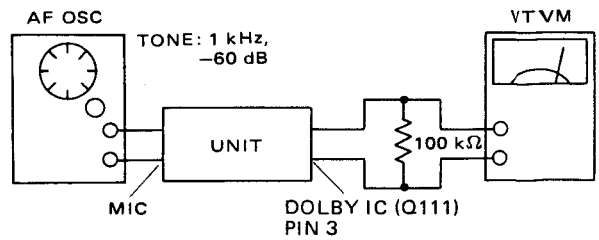
PROCEDURES

1. Connect a 1 kHz, −60 dBV input signal to the MIC terminal. Set up the tape deck for the recording mode of operation.
2. Adjust the RECORD LEVEL control for 580 mV output level at monitor out of the Q111 Pin 3 terminal.
3.

* For SD1010 & SD1020
Adjust R189 and R289 (5 kΩ each) until the VU meter pointer deflects to the +2dB (Dolby Point) on the VU meter.

* For SD3020
Adjust R189 and R289 (5 kΩ each) for +2dB LED meter reading.

Mode: Record



6.4 RECORDING BIAS CURRENT ADJUSTMENT

SET UP

1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. TAPE SELECTOR switch:- NORMAL.
3. Load:- Measuring instrument input impedance.

PROCEDURES

1. Connect the resistor 10 Ω between the Rec/Play head and the lead wire (white).
2. Set the TAPE SELECTOR switch to the NORMAL position.
3. Set up the tape deck in the recording mode. Connect the VTVM across the resistor 10 Ω.
4. Adjust the R316 (or R317) until the VTVM reads 3.7 mV.

NOTES:

1. **Proceed both for the right and left channels in the same manner.**
2. **For the tape deck equipped with the TAPE SELECTOR switch, make certain that the VTVM reads approximately 5.7 mV with it set to the CrO_2 position. In the FeCr and METAL position, the VTVM reads 4.5 mV and 7.5 mV, respectively.**

6.5 RECORD-PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

SET UP

1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. Input signal:- 1 kHz, −60 dB with −23 dB referenced as 0 dB.
3. TAPE SELECTOR switch:- NORMAL.
4. Output terminal:- LINE OUTPUT.
5. Load:- Measuring instrument input impedance.
6. Playback output level:- 43 mV (same as recorded signal level).
7. Test tape used:- TDK AC-212.
8. Tape Speed:- 1-7/8 IPS.

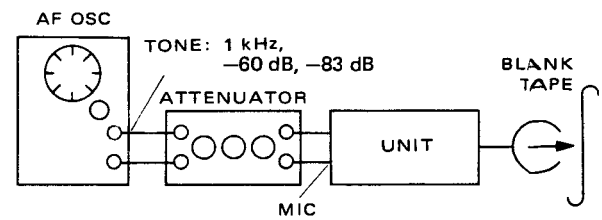
PROCEDURES

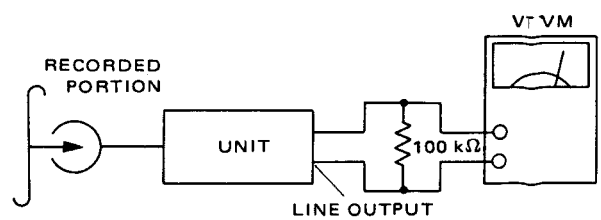
1. Connect the input signal to the MIC terminal. Set up the tape deck to the normal recording state.
2. In turn, reduce the input level by 23 dB with the use of the attenuator. Record the 1 kHz and 12.5 kHz tones.
3. Play the 1 kHz, 23 dB-down recorded tone back as 0 dB. Adjust the recording bias current until the 12.5 kHz response is within ±1 dB as referenced to the 1 kHz, 0 dB response.

NOTES:

1. **Proceed both for the right and left channels in the same manner.**
2. **If the recording bias current is reduced in the above adjustment, be sure to measure the distortion.**

Mode: Record





6.6 MPX FILTER ADJUSTMENT

SET UP

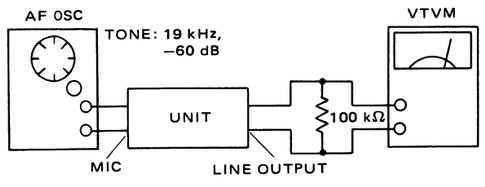
1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. Input terminal:- MIC.
3. TAPE SELECTOR switch:- NORMAL.
4. Output terminal:- LINE OUTPUT.
5. Load: Measuring instrument input impedance.

PROCEDURES

1. Connect the 19 kHz, −60 dB input signal to the MIC terminal. Adjust the RECORD LEVEL control for 0 VU.
2. Turn the DOLBY NR pushswitch to the ON position. Adjust the L101 (or L201) for minimum output level at the LINE OUTPUT terminal.

NOTE: Proceed both for the right and left channels in the same manner.

Mode: Record



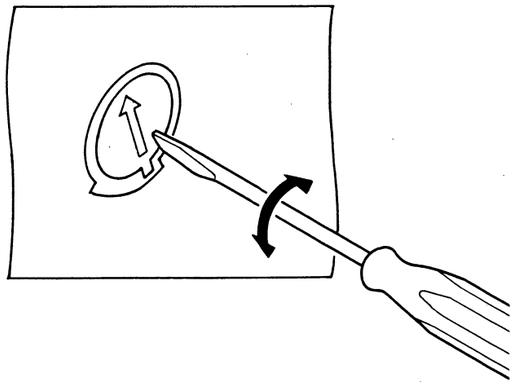
CAUTIONS

1. The 19 kHz input signal should be as precise as 19±0.01 kHz.
2. If the filter characteristic is better than 30 dB, the adjusting coil needs not to be adjusted since it is factory set.
3. The L101 (or L201) is composed of the 19 kHz filter and the bias trap. The 19 kHz filter is the core of left side toward the front of the set.

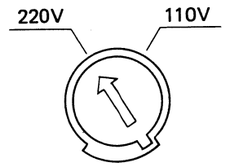
7. VOLTAGE CONVERSION

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

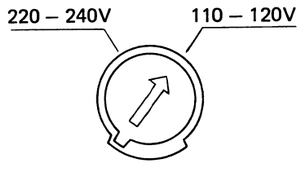
CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE. DO NOT DISASSEMBLE THE VOLTAGE SELECTOR ABSOLUTERY.



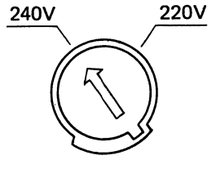
N VERSION



P VERSION



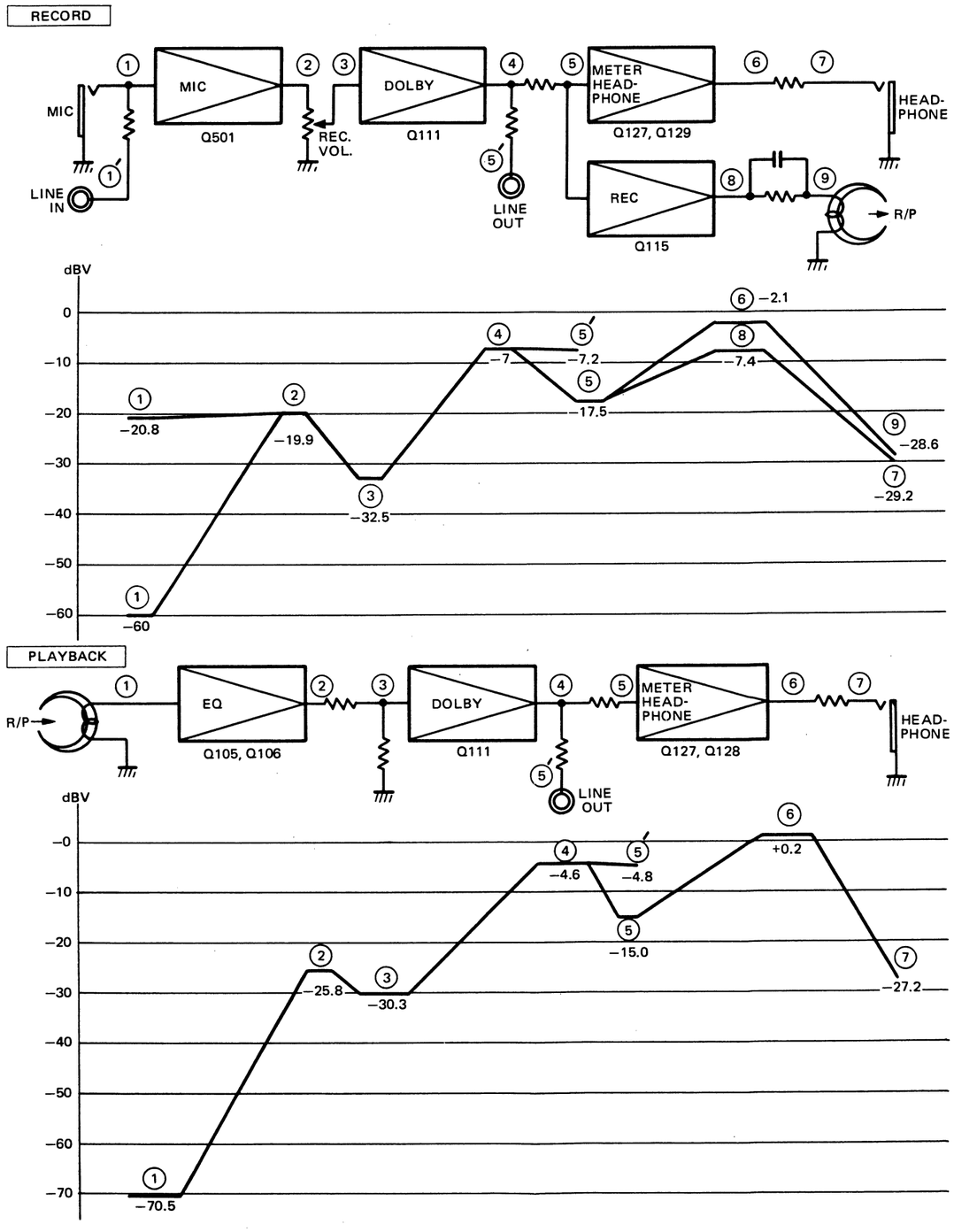
T/A VERSIONS



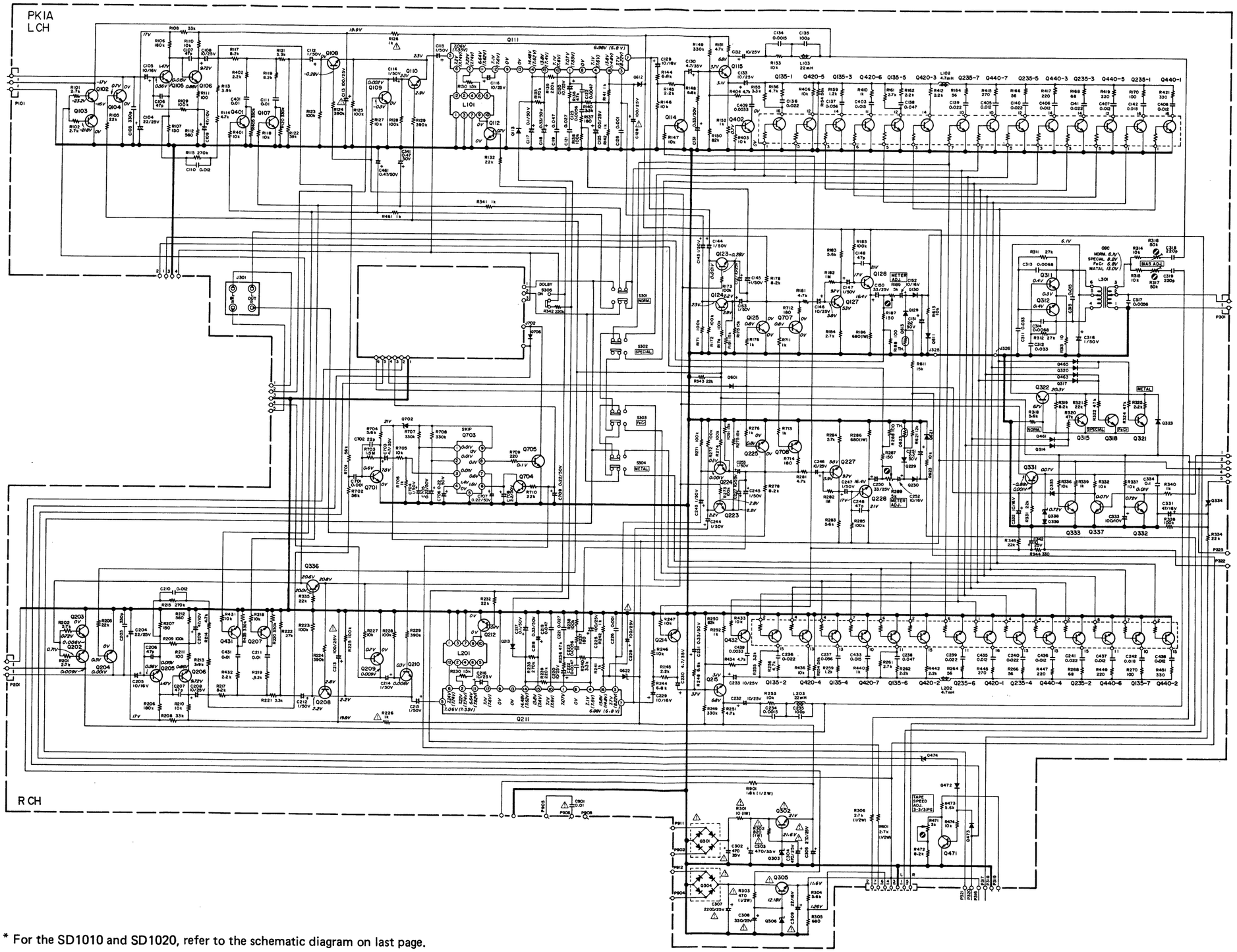
NOTE ON SAFETY:
THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY. PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBERS WITHOUT FAIL.

8. DIAGRAMS

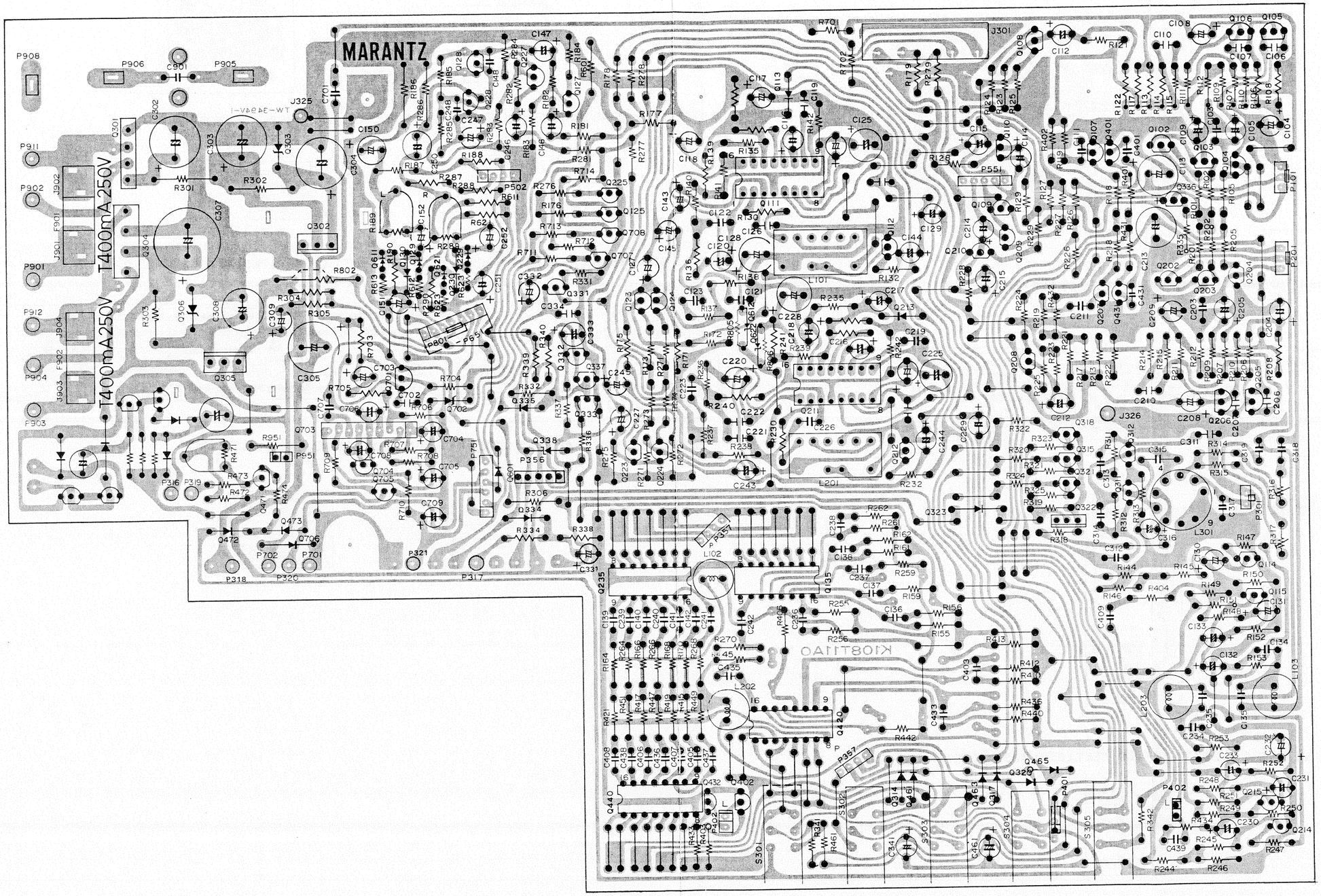
8.1 BLOCK & LEVEL DIAGRAMS



8.2 PRE AMP BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS-PK1A (SD3020 only)



* For the SD1010 and SD1020, refer to the schematic diagram on last page.


MARANTZ
T400mA 250V
T400mA250V
P908
P906
P905
P911
P902
P901
P912
P904
P903
P316
P319
P318
P320
P702
P701
P321
P317
P357
P356
P751
P502
P551
P951
P401
P402
J902
J901
J904
J903
J325
J301
J326
F901
F902
L101
L102
L103
L201
L202
L301
L203
S301
S302
S303
S304
S305
Q235
Q135
Q440
Q420
Q402
Q432
Q461
Q463
Q465
Q329
Q472
Q473
Q706
Q703
Q704
Q705
Q707
Q708
Q125
Q225
Q331
Q332
Q333
Q334
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Q337
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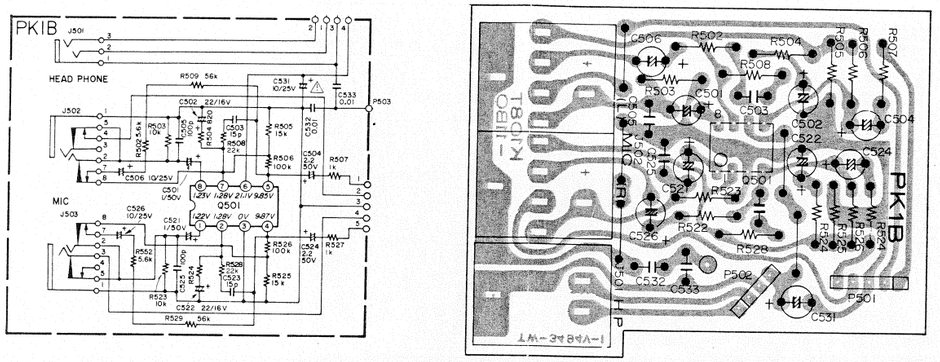
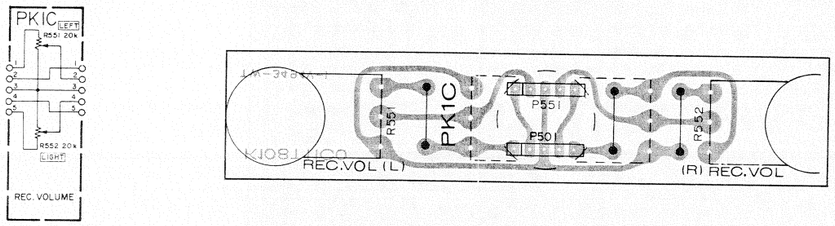
Q347
Q348
Q349
Q350

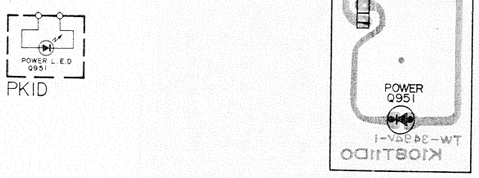
8.3 MIC AMP BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS-PK1B



8.4 RECORD LEVEL CONTROL BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS-PK1C

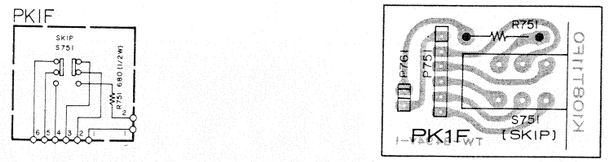


8.5 POWER LED BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS-PK1D(SD3020 Only)



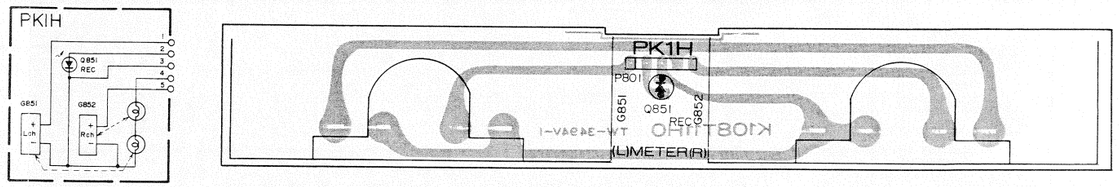
8.6 TAPE SPEED SELECTOR SWITCH BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS-PK1E(SD3020 & SD1020 Only)

8.7 SKIP SWITCH BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS-PK1F(SD3020 Only)

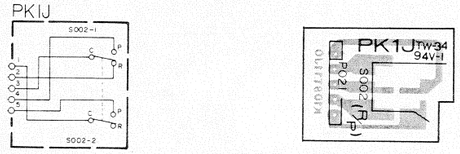


8.8 SKIP LED BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS-PK1G(SD3020 Only)

8.9 VU METER BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS-PK1H(SD1010 & SD1020 Only)

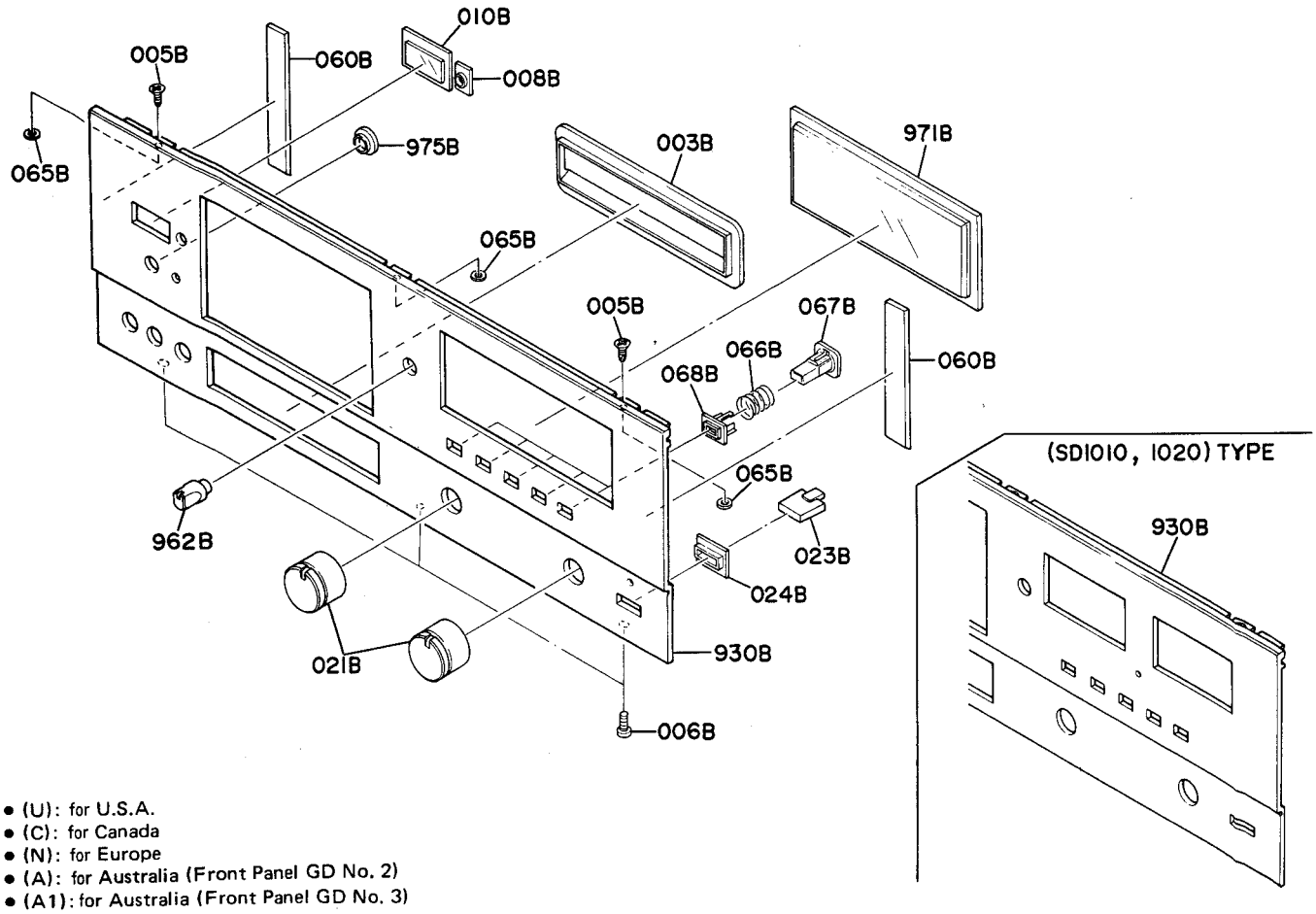


8.10 REC/PLAY SWITCH BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS-PK1J



9. EXPLODED VIEWS AND PARTS LIST

9.1 [P01-99] FRONT PANEL

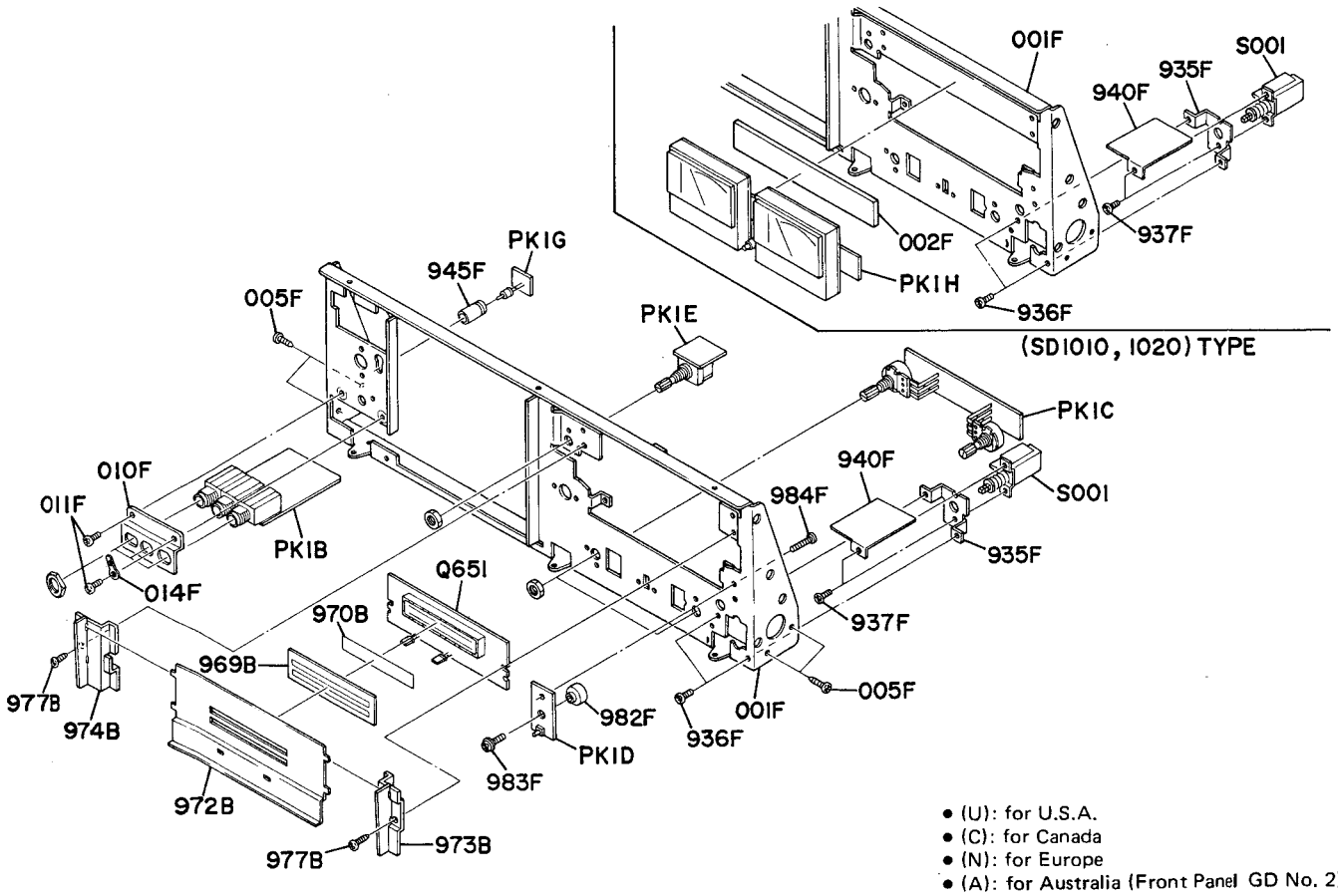


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia (Front Panel GD No. 2)
- (A1): for Australia (Front Panel GD No. 3)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
			(SD1010) Only
A	1	106T063400	Front Panel Assembly For (U, N)
A1	1	106T063420	Front Panel Assembly For (A)
A2	1	106T063430	Front Panel Assembly For (P)
003B	1	4276259020	Bushing, Button
008B	1	3448259100	Bushing, Reset Knob
010B	1	4276158040	Window, Counter
024B	1	216H259010	Bushing, Power Switch
060B	2	4279118010	Spacer For (A)
060B	2	4279118050	Spacer For (N)
068B	5	2112259030	Bushing, Selector Switch
930B	1	106T063010	Escutcheon For (U, N, P)
930B	1	106T063030	Escutcheon For (A)
			(SD1020) Only
A	1	107T063400	Front Panel Assembly For (U, C)
A1	1	107T063410	Front Panel Assembly For (N, A)
A2	1	107T063420	Front Panel Assembly For (A1)
A3	1	107T063430	Front Panel Assembly (P)
003B	1	4276259020	Bushing, Button
008B	1	3448259100	Bushing, Reset Knob
010B	1	4276158040	Window, Counter
024B	1	216H259010	Bushing, Power Switch
060B	2	4279118010	Spacer For (U, C, A1)
060B	2	4279118050	Spacer For (N, A)
068B	5	2112259030	Bushing, Selector Switch
930B	1	107T063010	Escutcheon For (P)
930B	1	107T063020	Escutcheon For (N, A)
930B	1	107T063030	Escutcheon For (U, C)
930B	1	107T063040	Escutcheon For (A1)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
			(SD3020) Only
A	1	108T063420	Front Panel Assembly For (U, C)
A1	1	108T063430	Front Panel Assembly For (N, A)
A2	1	108T063440	Front Panel Assembly For (A1)
A3	1	108T063450	Front Panel Assembly For (P)
003B	1	4276259020	Bushing, Button
008B	1	3448259100	Bushing, Reset Knob
010B	1	4276158040	Window, Counter
024B	1	216H259010	Bushing, Power Switch
060B	2	4279118010	Spacer For (U, C, A1)
060B	2	4279118050	Spacer For (N, A)
068B	5	2112259030	Bushing, Selector
930B	1	108T063010	Escutcheon For (P)
930B	1	108T063020	Escutcheon For (N, A)
930B	1	108T063030	Escutcheon For (U, C)
930B	1	108T063040	Escutcheon For A1)
971B	1	4276158030	Window, LED Meter
975B	1	3448259010	Bushing, Skip
005B	2	51500306B0	F.H. Taptite Screw F3 × 6
006B	3	51280306B0	B.H. Tapped Screw B3 × 6
021B	2	4276154020	Knob, Rec Level For (U, C, A1)
021B	2	4276154060	Knob, Rec Level For (N, A, P)
023B	1	216H154010	Knob, Power Switch
065B	2	95030808P0	Washer
066B	5	2112115010	Spring
067B	5	2112154010	Knob, Tape Selector
			(SD1020, 3020) Only
962B	1	4276154010	Knob, Speed

9.2 [P02-99] FRONT BRACKET

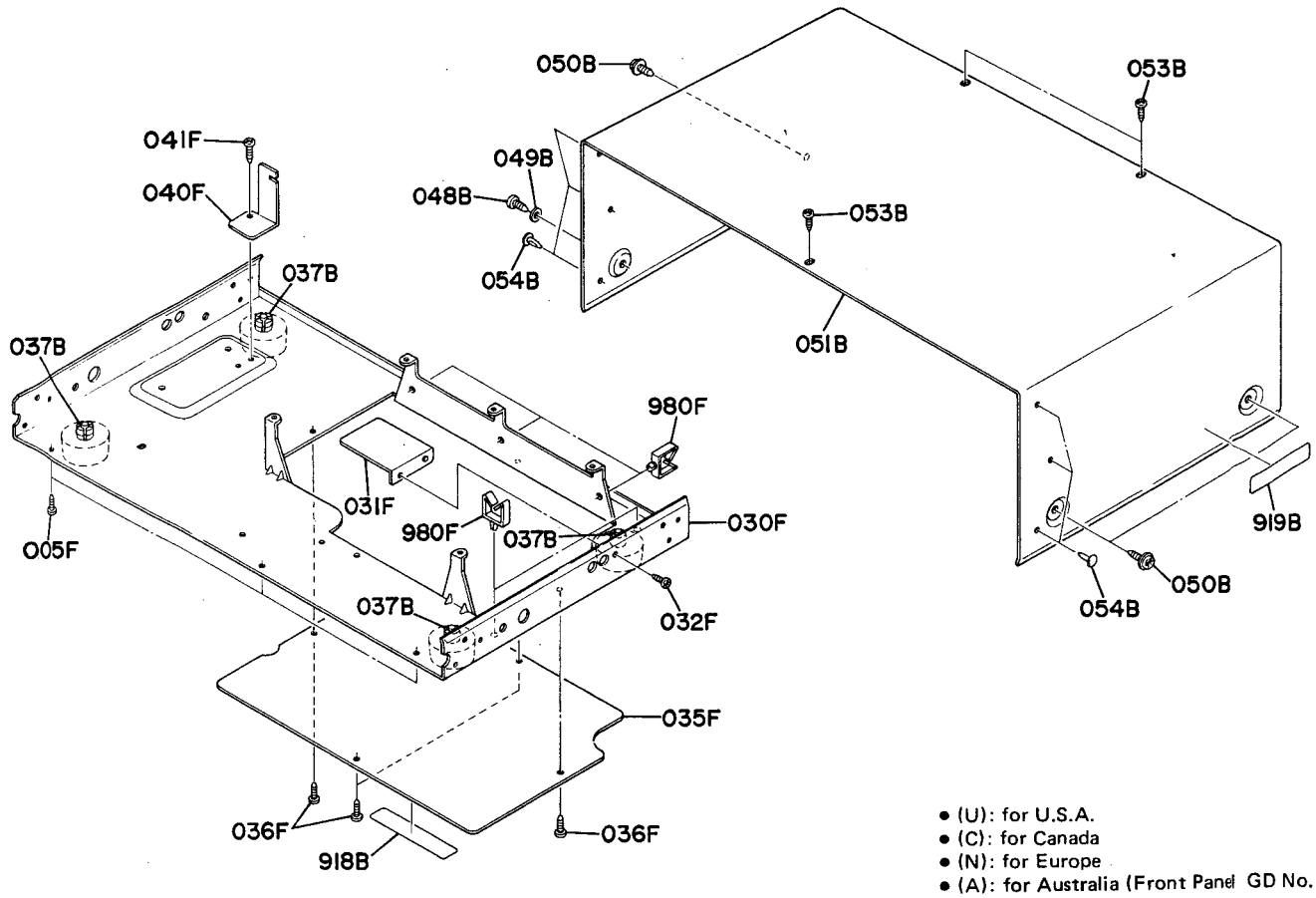


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia (Front Panel GD No. 2)
- (A1): for Australia (Front Panel GD No. 3)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
			(SD3020) Only
B	1	108T302400	Dial Assembly For(U, C, A1)
B1	1	108T302410	Dial Assembly For(N, A, P)
969B	1	108T302410	Lens
970B	1	108T303010	Mask
972B	1	108T302020	Dial For(U, C, A1)
972B	1	108T302010	Dial For(N, A, P)
973B	1	108T104010	Retainer (R)
974B	1	108T104020	Retainer (L)
977B	2	51280308B0	B.H. Tapped Screw B3 x 8
945F	1	4214271020	Holder, Skip
982F	1	4276055010	Collar
983F	1	51740312B0	O.C.H. Tapped Screw 3 x 12
984F	1	51570310B0	P. Taptite Screw P3 x 10

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
001F	1	108T160050	Bracket, Front (SD3020) Only
001F	1	108T160060	Bracket, Front (SD1010, 1020) Only
002F	1	107T056010	Buffer (SD1010, 1020) Only
005F	4	51280306B0	B.H. Tapped Screw B3 x 6
010F	1	108T160080	Bracket, Mic Jack
011F	2	51280306B0	B.H. Tapped Screw B3 x 6
014F	1	62031650W0	Lug
935F	1	108T160070	Bracket, Power Switch
936F	2	51280306B0	B.H. Tapped Screw B3 x 6
937F	2	51100306A9	B.H.M. Screw B3 x 6
940F	1	108T120010	Insulator For(N, A, A1)
⚠ S001	1	SP01010280	Push Switch, Power For(U, C)
⚠ S001	1	SP01010410	Push Switch, Power For(N, A, A1)
⚠ S001	1	SP02010490	Push Switch, Power For(P)
Q651	1	HI11203320	LED Meter

9.3 [P03-99] TOP COVER & MAIN CHASSIS

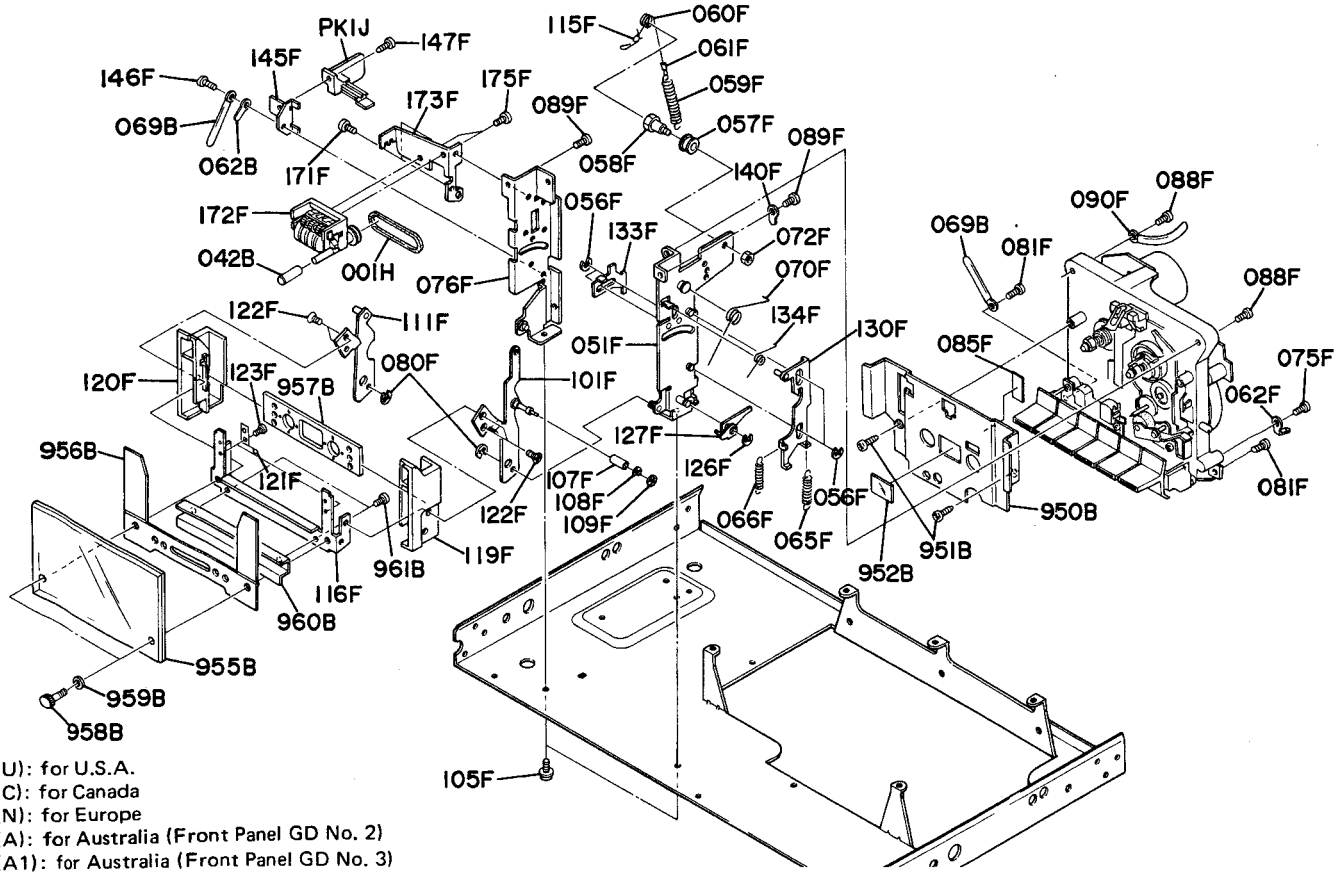


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia (Front Panel GD No. 2)
- (A1): for Australia (Front Panel GD No. 3)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
037B	4	2259057010	Leg
048B	1	51280406U0	B.H. Tapped Screw B4 x 6
049B	1	54020401S0	Flat Washer, P.
050B	3	51260408U0	B.T. Screw B4 x 8
051B	1	4214257010	Lid, Top Cover
053B	3	51280308U0	B.H. Tapped Screw B3 x 6
054B	6	2991259010	Bushing
918B	1	3889861010	Label For (U, N, A, A1, P)
918B	1	4113861020	Label For (C)
919B	1	2932861010	Label For (U, N, A, A1, P)
919B	1	2911861140	Label For (C)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
005F	3	51280306B0	B.H. Tapped Screw B3 x 6
030F	1	108T105010	Chassis, K
031F	1	108T109010	Sheild
032F	1	51280306B0	B.H. Tapped Screw B3 x 6
035F	1	4214257020	Lid
036F	4	51280306B0	B.H. Tapped Screw B3 x 6
040F	1	108T005010	Clamper
041F	1	51280306B0	B.H. Tapped Screw B3 x 6
980F	5	4214005010	Clamper

9.4 [P04-99] ASSOCIATED MECHANISM FOR CASSETTE TAPE OPERATION

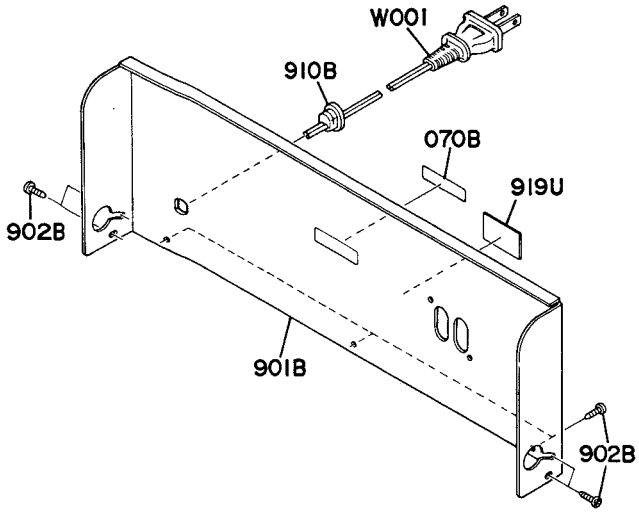


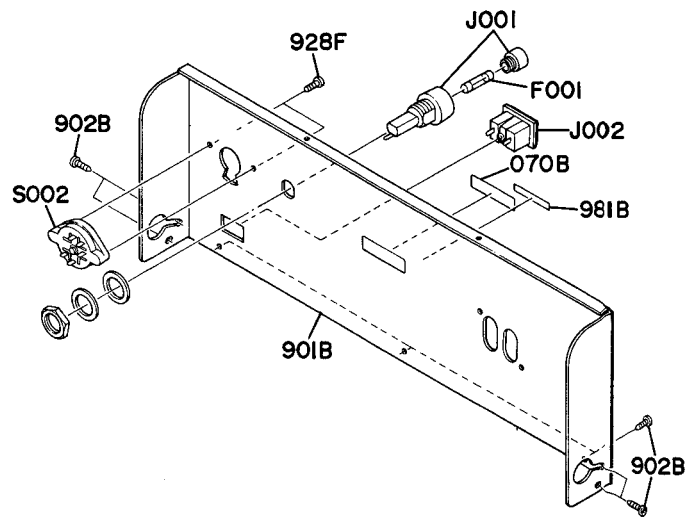
- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia (Front Panel GD No. 2)
- (A1): for Australia (Front Panel GD No. 3)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
042B	1	3448067060	Cap, Counter For(U, C, A1)
042B	1	3448067200	Cap, Counter For(N, A, P)
062B	1	62030049W0	Lug
069B	2	4220005030	Clamper
950B	1	4265053030	Cover, Mecha For(U, C, A1)
950B	1	4265053130	Cover, Mecha For(N, A, P)
951B	2	51382606K0	P.H. Tapped Screw P2.6 x 6
952B	1	4276274010	Reflector
955B	1	4276158010	Window
956B	1	4276063030	Escutcheon For(U, C, A1)
956B	1	4276063230	Escutcheon For(N, A, P)
957B	1	4276063040	Escutcheon For(U, C, A1)
957B	1	4276063240	Escutcheon For(N, A, P)
958B	2	4276112010	Shaft
959B	2	59046502G9	Washer
960B	1	4276053010	Cover
961B	2	51380260T0	P.H.Tapped Screw P2 x 6
051F	1	4265160520	Bracket, K(R)
056F	4	64000200R0	RG Ring, E Type
057F	1	4197262010	Pulley
058F	1	4197112040	Shaft
059F	1	4197115020	Spring
060F	1	72081604A0	String (26)
061F	1	56382540G0	Eyelet
062F	1	62031650W0	Lug
065F	1	4265115030	Spring
066F	1	4265115040	Spring
070F	1	4197115030	Spring
072F	1	53110303A9	Hexagon Nut
075F	1	51300306B0	P.H. Tapped Screw P3 x 6
076F	1	4265160530	Bracket, K(L)
080F	2	64000200R0	RG Ring, E Type

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
081F	2	51060306A9	P.H.M. Screw P3 x 6
085F	1	4265118010	Spacer
088F	2	51100308A9	B.H.M. Screw B3 x 8
089F	2	51280306B0	B.H. Tapped Screw B3 x 6
090F	1	4220005030	Clamper
101F	1	4265002550	Arm, K(R)
105F	2	51470306A9	L. Washer Screw 3 x 6
107F	1	4265055010	Collar
108F	1	64000200R0	RG Ring, E Type
109F	1	64020200Q0	RG Ring, CS Type
111F	1	4265002540	Arm, K(L)
115F	1	4197258030	Hook
116F	1	4265160110	Bracket, Cassette
119F	1	4265271010	Holder (R)
120F	1	4265271020	Holder (L)
121F	2	4265115050	Spring
122F	4	51042605S0	F.H.M. Screw F2.6 x 5
123F	2	51062605S0	P.H.M. Screw P2.6 x 5
126F	1	64002500R0	RG Ring, E Type
127F	1	4265002520	Arm Inter Lock
130F	1	4265258510	Hook, K
133F	1	4265354010	Lever
134F	1	4265115070	Spring
140F	1	62031650W0	Lug
145F	1	108T160090	Bracket, Rec. Switch
146F	1	51100306A9	B.H.M. Screw B3 x 6
147F	1	51300308B0	P.H. Tapped Screw P3 x 8
171F	2	51100304A9	B.H.M. Screw B3 x 4
172F	1	4276052010	Counter
173F	1	4263160010	Bracket
175F	2	51100306A9	B.H.M. Screw B3 x 6
001H	1	4276264010	Belt, Counter

9.5 [P05-99] REAR PANEL





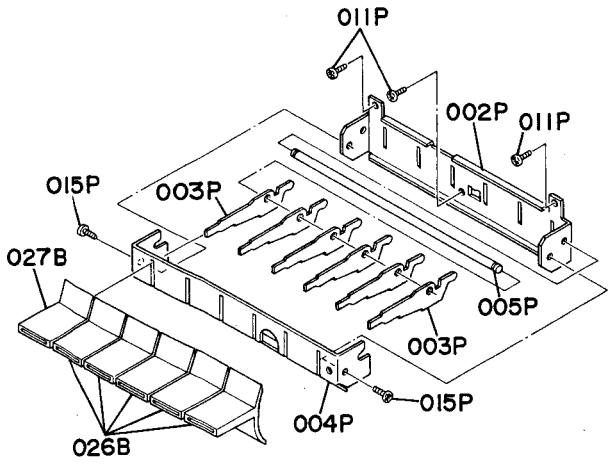
- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia (Front Panel GD No. 2)
- (A1): for Australia (Front Panel GD No. 3)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
			(SD1010) Only
901B	1	106T160070	Bracket, Rear Panel For (U)
901B	1	106T160010	Bracket, Rear Panel For (N)
901B	1	106T160020	Bracket, Rear Panel For (A)
901B	1	106T160050	Bracket, Rear Panel For (P)
			(SD1020) Only
901B	1	107T160010	Bracket, Rear Panel For (U, C)
901B	1	107T160020	Bracket, Rear Panel For (N)
901B	1	107T160030	Bracket, Rear Panel For (A, A1)
901B	1	107T160040	Bracket, Rear Panel For (P)
			(SD3020) Only
901B	1	108T160100	Bracket, Rear Panel For (U, C)
901B	1	108T160110	Bracket, Rear Panel For (N)
901B	1	108T160120	Bracket, Rear Panel For (A, A1)
901B	1	108T160130	Bracket, Rear Panel For (P)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
070B	1	2112265010	Indicator
902B	7	51280306U0	B.H. Tapped Screw B3×6
910B	1	1455259030	Bushing For(U, C)
981B	1	4581861010	Label, Made in Japan, For (N)
919U	1	2457861040	Label, CSA, For (C)
			For(N, A, A1, P)
928F	2	51280310U0	B.H. Tapped Screw B3×10
⚠F001	1	FS10012800	Fuse, T125mA For (N, A, A1)
⚠F001	1	FS10030610	Fuse, 0.3A For (P)
⚠J001	1	YJ08000290	Jack, Fuse Holder For (N, A, A1)
⚠J001	1	YJ08000230	Jack, Fuse Holder For (P)
⚠J002	1	YP04000580	Plug, A.C. Inlet For (N, A, A1, P)
⚠S002	1	BY05060040	Voltage Selector For (N, P)
⚠S002	1	BY05030040	Voltage Selector For (A, A1)
⚠W001	1	YC01900070	A.C. Power Cord For (U, C)

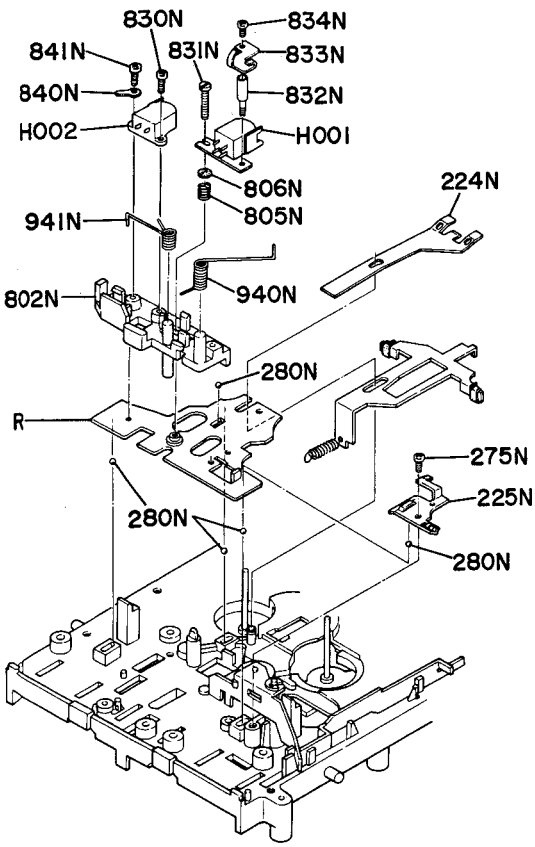
- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia (Front Panel GD No. 2)
- (A1): for Australia (Front Panel GD No. 3)

9.6 [P05-00] BUTTONS FOR TAPE OPERATION



REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
026B	5	4276270010	Button
027B	1	4276270020	Button, Rec
002P	1	4380160010	Bracket
003P	6	4380354070	Lever
004P	1	4380051010	Guide
005P	1	4380112130	Shaft
011P	3	51300310B0	P.H. Tapped Screw P3 x 10
015P	2	51062603A0	P.H.M. Screw P2.6 x 3

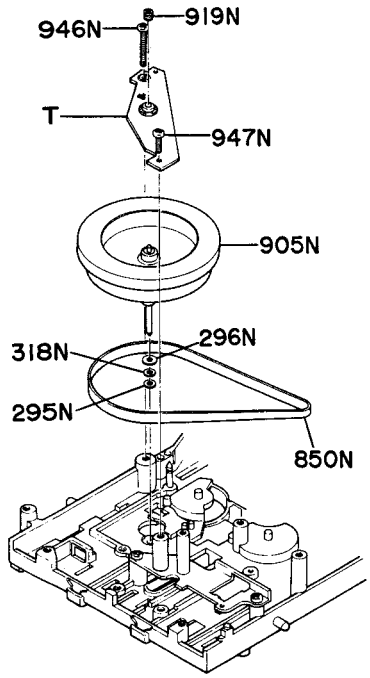
9.7 [P06-99] HEAD CHASSLS



REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
R	1	4380105410	Chassis Assembly, Head
224N	1	4380115130	Spring
225N	1	4380115160	Spring
275N	1	51300308B0	P.H. Tapped Screw P3 x 8
280N	5	61020010T0	Ball
802N	1	4367160010	Bracket, Head
805N	1	4383115030	Spring
806N	1	3444118070	Spacer
830N	1	51100210A0	B.H.M. Screw B2 x 10
831N	1	51190210A2	Screw 2 x 10
832N	1	4380101030	Support
833N	1	4380005010	Clamper
834N	1	51100203A0	B.H.M. Screw B2 x 3
840N	1	62021030W0	Lug
841N	1	51100212A0	B.H.M. Screw B2 x 12
940N	1	4367115380	Spring
941N	1	4367115050	Spring
H001	1	LH42951030	Rec/Play Head
H002	1	LH31000510	Erase Head

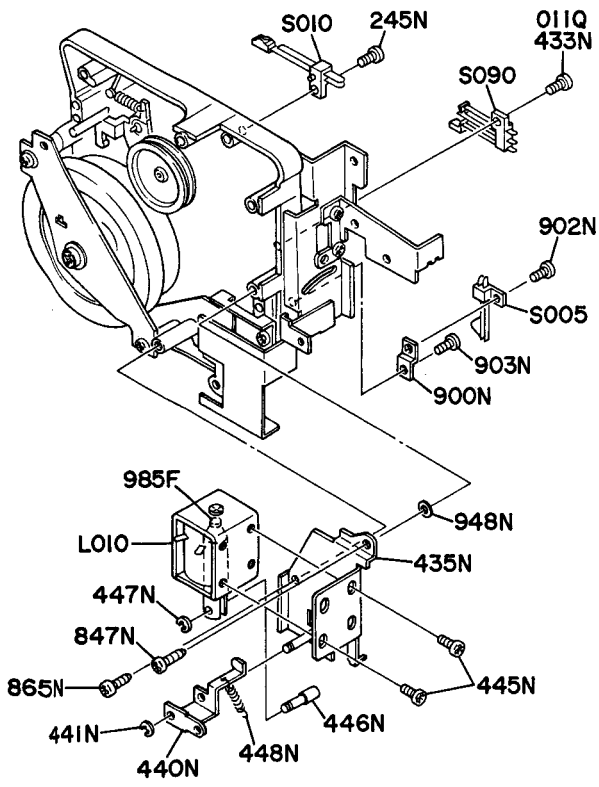
- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia (Front Panel GD No. 2)
- (A1): for Australia (Front Panel GD No. 3)

9.8 [P07-99] FLYWHEEL



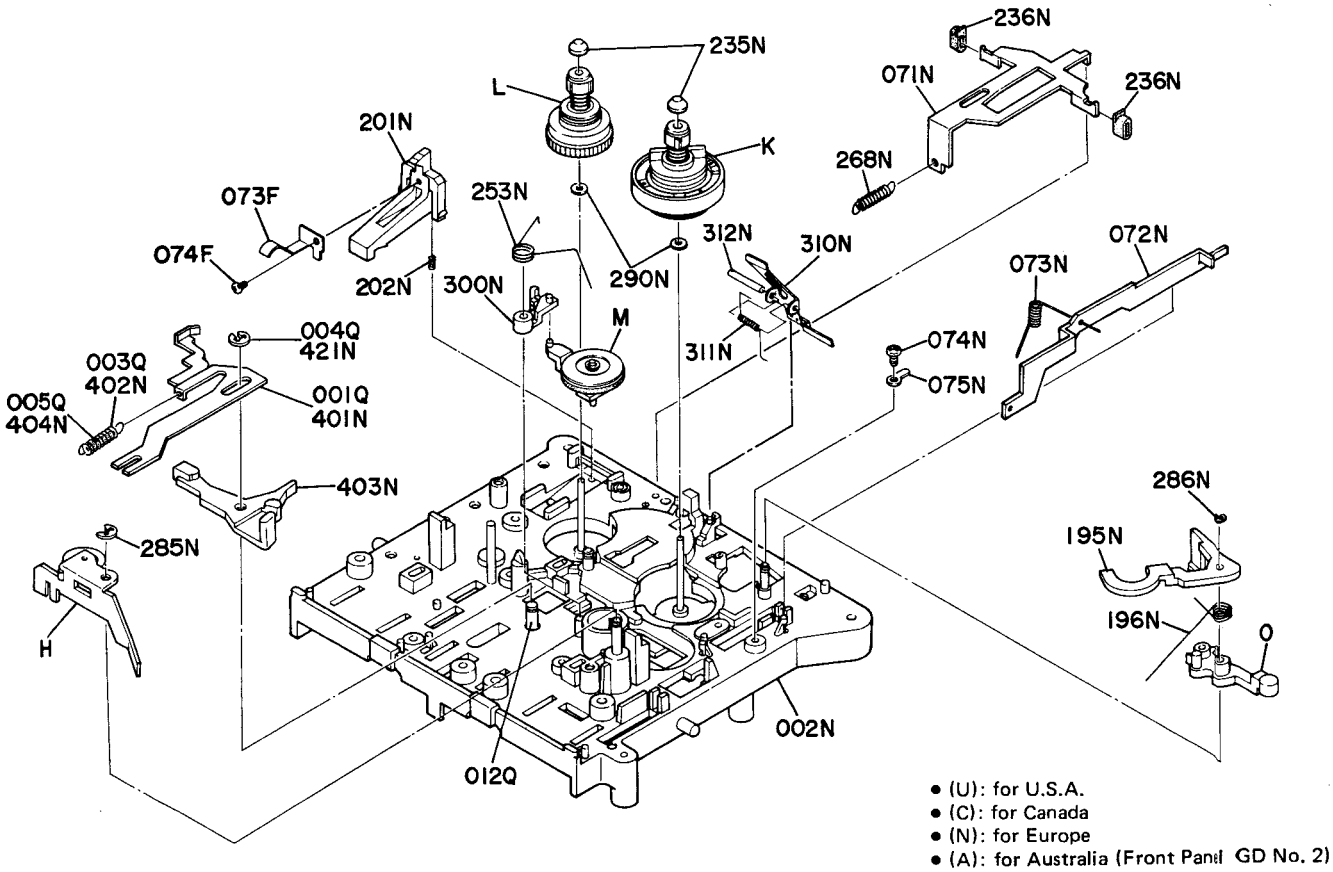
REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
T	1	4380104400	Retainer Assembly, Flywheel
295N	1	59264702G9	Washer
296N	1	59260702G9	Washer
318N	1	59264705G9	Washer
850N	1	4380264030	Belt
905N	1	4380273500	Flywheel (K)
919N	1	3483164020	Adjuster
946N	1	51300325B0	P.H. Tapped Screw P3 x 25
947N	1	51100308A9	B.H.M. Screw B3 x 8

9.9 [P08-99] SWITCH LOCATION FOR TAPE OPERATION



REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
245N	1	51302608B0	P.H. Tapped Screw P2.6 x 8
900N	1	4411160020	Bracket
902N	1	51062608A0	P.H.M. Screw P2.6 x 9
903N	1	51300306B0	P.H. Tapped Screw P3 x 6
S005	1	SM01010510	Mini Switch, Play Start
S010	1	SM01010680	Mini Switch, Motor
S090	1	SM02020080	Mini Switch
			(SD3020) Only
433N	1	51302608B0	P.H. Tapped Screw P2.6 x 8
435N	1	4198160500	Bracket
440N	1	4198002010	Arm
441N	1	64002500R0	RG Ring, E Type
445N	2	51100305A9	B.H.M. Screw B3 x 5
446N	1	4198254020	Pin
447N	1	64001500R0	RG Ring, E Type
448N	1	4198115010	Spring
865N	1	51060308A9	P.H.M. Screw P3 x 8
847N	1	51300312B0	P.H. Tapped Screw P3 x 12
948N	1	54020401A0	Flat Washer, P.
L010	1	ME10530040	Solenoid Coil
985F	1	4276118020	Spacer, Plunger
			(SD1010, SD1020) Only
011Q	1	51302608B0	P.H. Tapped Screw P2.6 x 8

9.10 [P09-99] PARTS ASSEMBLED ON TOP OF CHASSIS

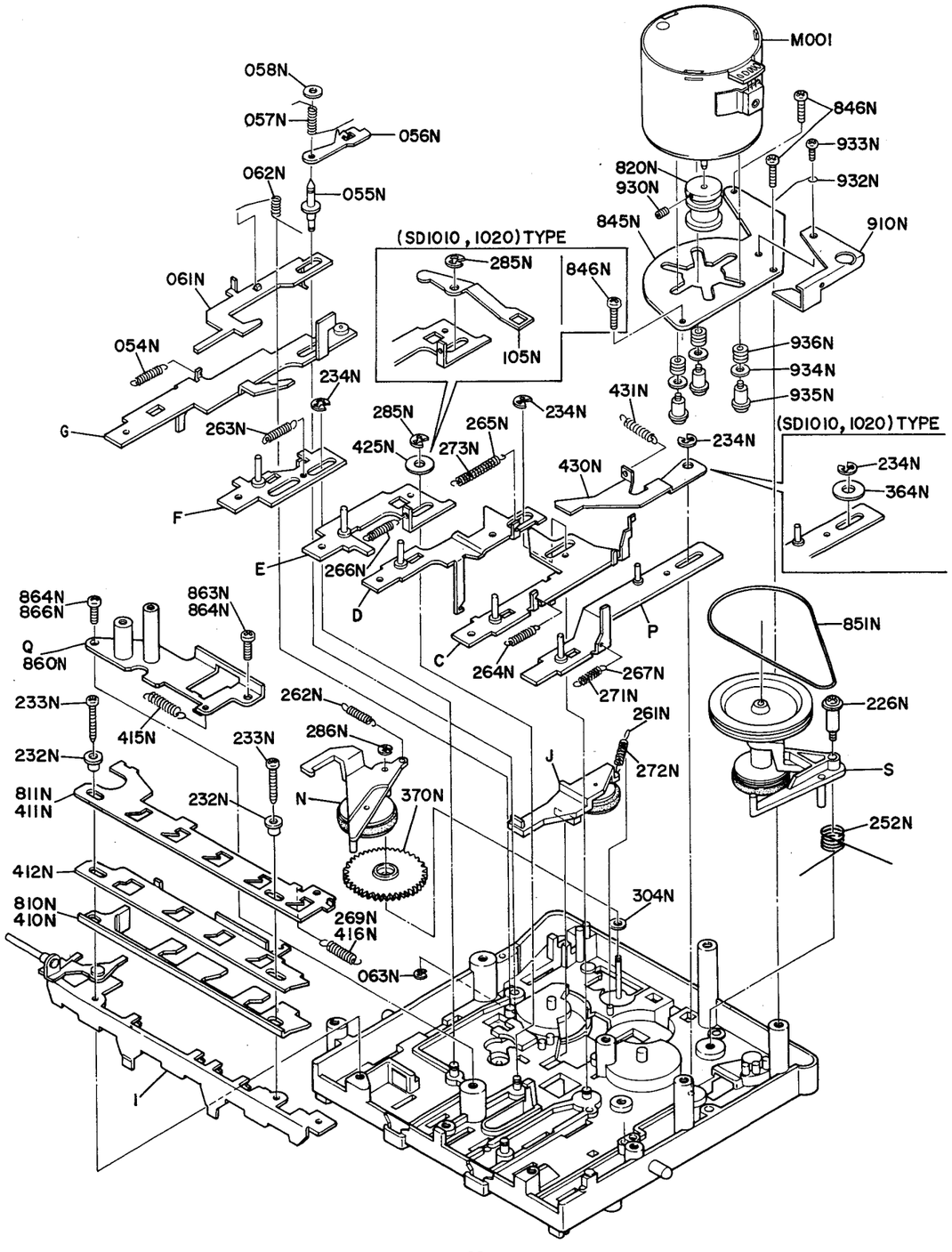


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia (Front Panel GD No. 2)
- (A1): for Australia (Front Panel GD No. 3)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
H	1	4367002400	Arm Assembly, Pinch Roller
K	1	4367004400	Table Assembly, Takeup
L	1	4367004410	Table Assembly, Supply
M	1	4367002420	Arm Assembly, Takeup
O	1	4380354770	Lever Assembly, TMS
002N	1	4380105700	Chassis Assembly
071N	1	4367354090	Lever
072N	1	4367354120	Lever
073N	1	4380115120	Spring
074N	1	5128260880	B.H. Tapped Screw B2.6 x 8
075N	1	62261240W0	Lug
195N	1	4367002050	Arm
196N	1	4367115130	Spring
201N	1	4367354080	Lever
202N	1	4380115060	Spring
235N	2	4367067010	Cap
236N	2	4367263010	Brake
253N	1	4367115310	Spring
268N	1	4367115210	Spring
285N	1	64002500R0	RG Ring, E Type
286N	1	64001500R0	RG Ring, E Type

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
290N	2	59020402G9	Washer
300N	1	4367354110	Lever
310N	1	4380115140	Spring
311N	1	4380115170	Spring
312N	1	4380112010	Shaft
073F	1	4197115060	Spring
074F	1	51302606U0	P.H. Tapped Screw P2.6 x 6
			(SD3020) Only
401N	1	4398354010	Lever
402N	1	4398115010	Spring
403N	1	4367002090	Arm
404N	1	4367056050	Buffer
421N	1	64002500R0	RG Ring, E Type
			(SD1010, SD1020) Only
001Q	1	4398354010	Lever
003Q	1	4398115010	Spring
004Q	1	64002500R0	RG Ring, E Type
005Q	1	4367056050	Buffer
012Q	1	4367112190	Shaft

9.11 [P10-99] PARTS ASSEMBLED ON REVERSE OF CHASSIS

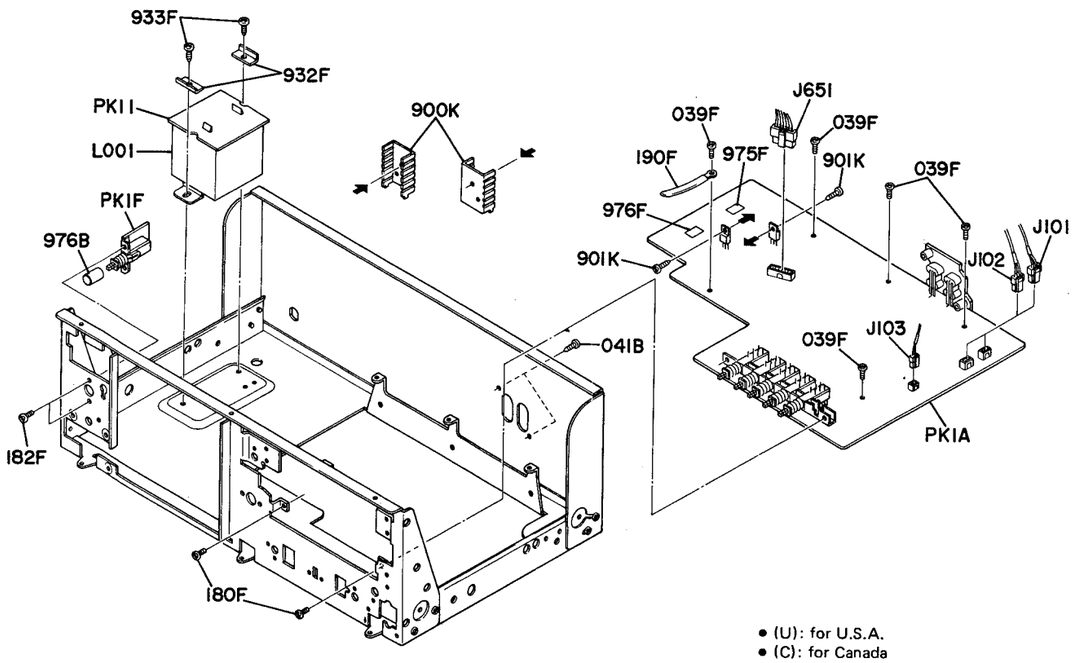


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia (Front Panel GD No. 2)
- (A1): for Australia (Front Panel GD No. 3)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
C	1	4380354400	Lever Assembly, Rew
D	1	4380354410	Lever Assembly, Play
E	1	4380354420	Lever Assembly, F.F.
F	1	4380354430	Lever Assembly, Stop
G	1	4380354440	Lever Assembly, Pause
I	1	4383051400	Guid Assembly
J	1	4367354450	Lever Assembly, F.F.
N	1	4367002410	Arm Assembly, TMS
S	1	4380001400	Idler Assembly
			(SD1010, 1020) Only
P	1	4380354450	Lever Assembly, Rec.
			(SD3020) Only
P	1	4399160400	Bracket Assembly, Rec.
Q	1	4399160400	Bracket Assembly, SW.
054N	1	4367115210	Spring
055N	1	4367112130	Shaft
056N	1	4367054030	Cam, Pause Lock
057N	1	4367115140	Spring
058N	1	59020805G9	Washer
061N	1	4367354070	Lever
062N	1	4380115080	Spring
063N	1	64001500R0	RG Ring, E Type
226N	1	4367112180	Shaft
232N	2	4382055010	Collar
233N	2	51300312B0	P.H. Tapped Screw P3 x 12
234N	3	64000300R0	RG Ring, E Type
252N	1	4380115050	Spring
261N	1	4367115090	Spring
262N	1	4367115120	Spring
263N	1	4367115250	Spring
264N	1	4367115340	Spring
265N	1	4367115270	Spring
266N	1	4367115280	Spring
267N	1	4367115070	Spring
271N	1	4367056020	Buffer
272N	1	4367056030	Buffer
273N	1	4367056020	Buffer
285N	1	64002500R0	RG Ring, E Type
286N	1	64001500R0	RG Ring, E Type
304N	1	4367118060	Spacer
370N	1	4367058500	Gear (K)
845N	1	4380160030	Bracket, Motor
851N	1	4380264050	Belt.
910N	1	4380002030	Arm, Electric Free
930N	1	51690305Q9	Socket Screw, HP 3 x 5
932N	1	4380115150	Spring
933N	1	51062603A0	P.H.M. Screw P2.6 x 3
934N	3	54020401E0	Flat Washer, P.
935N	3	4367112150	Shaft
936N	3	4383259010	Bushing

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
			(SD1010) Only
820N	1	4380262010	Pulley (2200rpm)
M001	1	MM11200130	D.C. Motor 12V (2200rpm)
			(SD1010, 1020) Only
105N	1	4383002020	Arm
269N	1	4380115100	Spring
364N	1	54020401E0	Flat Washer, P.
810N	1	4383054030	Cam, Stop/Eject
811N	1	4383054020	Cam, Lock
846N	3	51300308B0	P.H. Tapped Screw P3 x 8
860N	1	4380160700	Bracket, Switch
863N	1	51300308B0	P.H. Tapped Screw P3 x 8
864N	1	51300310B0	P.H. Tapped Screw P3 x 10
			(SD1020, 3020) Only
820N	1	4398262020	Pulley (1800rpm)
M001	1	MM11205020	D.C. Motor 12V (2 Speed)
			(SD3020) Only
410N	1	4396054010	Cam, Stop/Eject
411N	1	4396054020	Cam, Rec Lock
412N	1	4399054010	Cam, Lock
415N	1	4396115030	Spring
416N	1	4396115030	Spring
425N	1	54110159A0	Flat Washer, P.
430N	1	4399002010	Arm
431N	1	4399115010	Spring
846N	2	51300308B0	P.H. Tapped Screw P3 x 8
866N	1	51300310B0	P.H. Tapped Screw P3 x 10
864N	1	51300308B0	P.H. Tapped Screw P3 x 8

9.12 [M01-99] P.W. BOARD & GENERAL PARTS

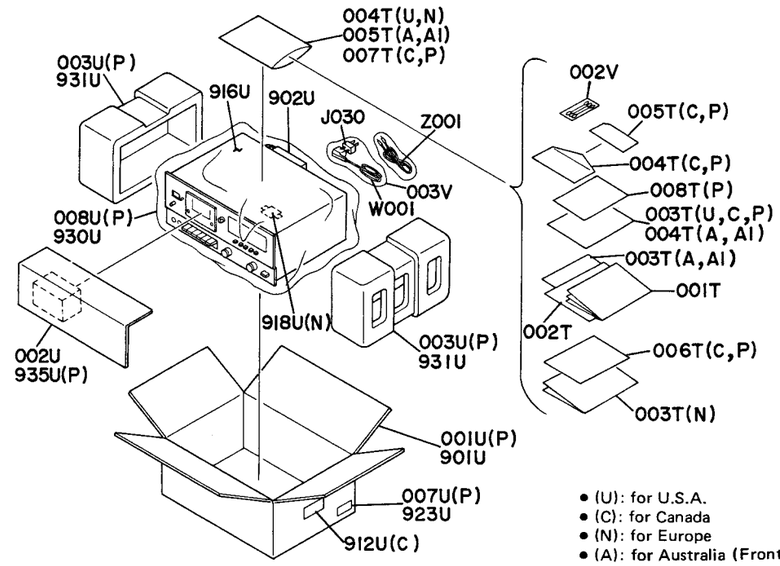


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia (Front Panel GD No. 2)
- (A1): for Australia (Front Panel GD No. 3)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
			(SD 3020) Only
976B	1	3448154060	Knob, Skip For (U, C, A1)
976B	1	3448154240	Knob, Skip For (N, P, A)
182F	2	51100306A9	B.H.M. Screw B3 x 6
J651	1	YB00300340	Jack, (7P)
041B	2	51280308U0	B.H. Tapped Screw B3 x 8
039F	5	51280306B0	B.H. Tapped Screw B3 x 6
180F	2	51100306A9	B.H.M. Screw B3 x 6
190F	1	4220005040	Clamper
932F	2	4265005010	Clamper
933F	2	51300408B0	P.H. Tapped Screw P4 x 8
975F	1	9510611010	Label, F901 1A For (P)
976F	1	9510611120	Label, F902 1.5A For (P)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
900K	1	202H267030	Heatsink
901K	1	51280306B0	B.H. Tapped Screw B3 x 6
J101	1	YB00600140	Connective Cord, 3P
J102	1	YB00600150	Connective Cord, 3P
J103	1	YB00600160	Connective Cord, 2P
⚠ L001	1	TS15401220	Power Transformer For (U, C)
⚠ L001	1	TS15401230	Power Transformer For (N, P)
⚠ L001	1	TS15401240	Power Transformer For (A, A1)

9.13 [H01-99] PACKING MATERIALS



- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia (Front Panel GD No. 2)
- (A1): for Australia (Front Panel GD No. 3)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
			(SD1010) Only
002T	1	106T851020	Instructions, For (U, A)
002T	1	106T851320	Instructions, For (N)
002T	1	106T851030	Instructions, For (P)
003T	1	106T856010	Circuit Diagram, For (N)
001U	1	106T801050	Packing Case, For (P)
002U	1	4265807010	Reinforcing, For (A)
901U	1	106T801020	Packing Case, For (N)
901U	1	106T801040	Packing Case, For (A)
901U	1	106T801070	Packing Case, For (U)
916U	1	2918107160	Sheet, For (A)
931U	2	4214809010	Cushion, For (A)
			(SD1020) Only
002T	1	107T851020	Instructions, For (U, A, A1, P)
002T	1	108T851220	Instructions, For (C)
002T	1	107T851320	Instructions, For (N)
003T	1	107T856010	Circuit Diagram, For (N)
001U	1	107T801050	Packing Case, For (P)
901U	1	107T801030	Packing Case, For (U, C)
901U	1	107T801040	Packing Case, For (N, A, A1)
			(SD3020) Only
002T	1	108T851020	Instructions, For (U, A, A1, P)
002T	1	108T851220	Instructions, For (C)
002T	1	108T851320	Instructions, For (N)
003T	1	108T856010	Circuit Diagram, For (N)
001U	1	108T801050	Packing Case, For (P)
901U	1	108T801030	Packing Case, For (U, C)
901U	1	108T801040	Packing Case, For (N, A, A1)
001T	1	108T851010	Instructions, For (U, A, A1)
001T	1	108T851310	Instructions, For (C, N, P)
003T	1	2818854020	Guarantee Card, For (U)
003T	1	2818854040	Guarantee Card, For (C)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
003T	1	2205851040	Instructions, For (A, A1)
003T	1	2818854010	Guarantee Card, For (P)
004T	1	9013025010	Polyethylene Bag, For (U, N)
004T	1	2918813010	Envelope, For (C)
004T	1	9631000090	Guarantee Card, For (A, A1)
004T	1	2713813010	Envelope, For (P)
005T	1	9630000180	Guarantee Card, For (C, P)
005T	1	9013025010	Polyethylene Bag, For (A, A1)
006T	1	9650000050	S.Station Card, For (C)
006T	1	9650000010	S. Station Card, For (P)
007T	1	9013025010	Polyethylene Bag, For (C, P)
008T	1	3435851210	Instructions, For (P)
002U	1	108T807010	Reinforcing, For (U, C, N, A, A1)
003U	2	2139809040	Cushion, For (P)
007U	2	9526019050	Serial No. Card, For (P)
008U	1	9090909040	Polyethylene Sheet, For (P)
902U	1	2918107370	Sheet, For (U, C)
912U	2	9510901020	Label, For (C)
916U	1	2918107190	Sheet, For (U, C, N, A, A1)
916U	1	2918107300	Sheet, For (P)
918U	1	2731821010	Silicagel, For (N)
923U	2	9526019010	Serial No. Card, For (U)
923U	2	9526019020	Serial No. Card, For (C)
923U	2	9526019030	Serial No. Card, For (N, A, A1)
930U	1	9090909040	Polyethy. Sheet,For (U, C, N, A, A1)
931U	2	108T809010	Cushion, For (U, C, N, A, A1)
935U	1	4277807010	Reinforcing, For (P)
002V	1	4136071010	Cleaner
003V	1	9011525010	Polyethylene Bag, For (N, A, A1)
003V	1	9011325010	Polyethylene Bag, For (P)
⚠ W001	1	ZC01805010	A.C. Power Cord, For (N)
⚠ W001	1	ZC02006020	A.C. Power Cord, For (A, A1)
⚠ W001	1	ZC01800170	A.C. Power Cord, For (P)
Z001	2	ZD01000170	Connective Cord
J030	1	YJ04000240	Jack, A.C. Adaptor, For (P)

9.14 ELECTRICAL PARTS

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia (Front Panel GD No. 2)
- (A1): for Australia (Front Panel GD No. 3)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
			PK1A-PRE AMP CIRCUIT BOARD
PK1A	1	YK108T11A0	P.W. Board, Pre Amp
	1	ZZ108T11A0	P.W. Board Assembly [For SD3020 (U, C)]
	1	ZZ108T81A0	P.W. Board Assembly [For SD3020 (N, A, A1)]
	1	ZZ108T91A0	P.W. Board Assembly [For SD3020(P)]
	1	ZZ107T11A0	P.W. Board Assembly [For SD1020(U, C)]
	1	ZZ107T81A0	P.W. Board Assembly [For SD1020(N, A, A1)]
	1	ZZ107T71A0	P.W. Board Assembly [For SD1020(P)]
	1	ZZ106T11A0	P.W. Board Assembly [For SD1010(U)]
	1	ZZ106T81A0	P.W. Board Assembly [For SD1010(N, A)]
	1	ZZ106T91A0	P.W. Board Assembly [For SD1010(P)]
			PK1A-CAPACITORS—1
C103	1	DD15331360	Ceramic, 330pF ±5%, 50V
C104	1	EA22602530	Elect., 22μF, 25V
C105	1	EA10602530	Elect., 10μF, 25V
C106	1	DD15470370	Ceramic, 47pF ±5%, 50V
C107	1	DD15470370	Ceramic, 47pF ±5%, 50V
C108	1	EA10602530	Elect., 10μF, 25V
C109	1	EA47601630	Elect., 47μF, 16V
C110	1	DF15123300	Film, 0.01μF ±5%, 50V
C111	1	DF15103300	Film, 0.01μF ±5%, 50V
C112	1	EA10505030	Elect., 1μF, 50V
C113 ⚠	1	EA10702530	Elect., 100μF, 25V
C114	1	EA10505030	Elect., 1μF, 50V
C115	1	EA10505030	Elect., 1μF, 50V
C116	1	EA10602530	Elect., 10μF, 25V
C117	1	EA10405030	Elect., 0.01μF, 50V
C118	1	EA33405030	Elect., 0.33μF, 50V
C119	1	DF15473300	Film 0.047μF±5%, 50V
C120	1	EA10602530	Elect., 10μF, 25V
C121	1	DF15273300	Film, 0.027μF±5%, 50V
C122	1	DF15472300	Film, 4700pF ±5%, 50V
C123 ⚠	1	DF15562300	Film, 5600pF ±5%, 50V
C125	1	EA10702530	Elect., 100μF, 25V
C126	1	DF15102300	Film, 1000pF ±5%, 50V
C127	1	EA10602530	Elect., 10μF, 25V
C129	1	EA10602530	Elect., 10μF, 25V
C130	1	EA47503530	Elect., 4.7μF, 35V
C131	1	EA33405030	Elect., 0.33μF, 50V
C132	1	EA10602530	Elect., 10μF, 25V
C133	1	EA10602530	Elect., 10μF, 25V
	1	DF15152300	Film, 10μF, 25V
C135			
C135	1	DF55101090	Film, 100pF ±5%, 50V
C136	1	DF15223300	Film, 0.022μF±5%, 50V
C137	1	DF15563300	Film, 0.056μF±5%, 50V
C138	1	DF15473300	Film, 0.047μF±5%, 50V
C139	1	DF15223300	Film, 0.022μF±5%, 50V
C140	1	DF15223300	Film, 0.022μF±50%, 50V
C141	1	DF15223300	Film, 0.022μF±5%, 50V
C142	1	DF15183300	Film, 0.018μF±5%, 50V
C143	1	EA10505030	Elect., 1μF, 50V
C144	1	EA10505030	Elect., 1μF, 50V
C145	1	EA10505030	Elect., 1μF, 50V
C146	1	EA10602530	Elect., 10μF, 25V
C153	1	EA10505030	Elect., 1μF 50V

REF. DESIG.	Q'TY	PART NO.	EESCRIPTION
C147	1	EA10505030	Elect., 1μF, 50V
C148	1	DD15470370	Ceramic, 47pF ±5%, 50V
C150	1	EA33602530	Elect., 33μF, 25V
C151	1	EA22505030	Elect., 2.2μF, 50V
C203	1	DD15331360	Ceramic., 330pF ±5%, 50V
C204	1	EA22602530	Elect., 22μF, 25V
C205	1	EA10602530	Elect., 10μF, 25V
C206	1	DD15470370	Ceramic, 47pF ±5%, 50V
C207	1	DD15470370	Ceramic, 47pF ±5%, 50V
C208	1	EA10602530	Elect., 10μF, 25V
C209	1	EA47601630	Elect., 47μF, 16V
C210	1	DF15123300	Film, 0.01μF ±5%, 50V
C211	1	DF15103300	Film, 0.01μF ±5%, 50V
C212	1	EA10505030	Elect., 1μF, 50V
C213	1	EA10702530	Elect., 100μF, 25V
C214	1	EA10505030	Elect., 1μF, 50V
C215	1	EA10505030	Elect., 1μF, 50V
C216	1	EA10602530	Elect., 1μF, 25V
C217	1	EA10405030	Elect., 0.1μF, 50V
C218	1	EA33405030	Elect., 0.33μF, 50V
C219	1	DF15473300	Film, 0.047μF±5%, 50V
C220	1	EA10602530	Elect., 10μF, 25V
C221	1	DF15273300	Film, 0.027μF±5%, 50V
C222	1	DF15472300	Film, 4700pF ±5%, 50V
C223	1	DF15562300	Film, 5600pF ±5%, 50V
C225	1	EA10702530	Elect., 100μF, 25V
C226	1	DF15102300	Film, 1000pF ±5%, 50V
C227	1	EA10602530	Elect., 10μF, 25V
C229	1	EA10602530	Elect., 10μF, 25V
C230	1	EA47503530	Elect., 4.7μF, 35V
C231	1	EA33405030	Elect., 0.33μF, 50V
C232	1	EA10602530	Elect., 10μF, 25V
C233	1	EA10602530	Elect., 10μF, 25V
C234	1	DF15152300	Film, 10μF, 25V
C235	1	DF55101090	Film, 100pF ±5%, 50V
C236	1	DF15223300	Film, 0.022μF±5%, 50V
C237	1	DF15563300	Film, 0.056μF±5%, 50V
C238	1	DF15473300	Film, 0.047μF±5%, 50V
C239	1	DF15223300	Film, 0.022μF±5%, 50V
C240	1	DF15223300	Film, 0.022μF±5%, 50V
C241	1	DF15223300	Film, 0.022μF±5%, 50V
C242	1	DF15183300	Film, 0.018μF±5%, 50V
C243	1	EA10505030	Elect., 1μF, 50V
C244	1	EA10505030	Elect., 1μF, 50V
C245	1	EA10505030	Elect., 1μF, 50V
C246	1	EA10602530	Elect., 10μF, 25V
C247	1	EA10505030	Elect., 1μF, 50V
C248	1	DD15470370	Ceramic, 47pF ±5%, 50V
C253	1	EA10505030	Elect., 1μF 50V
C250	1	EA33602530	Elect., 33μF, 25V
C251	1	EA22505030	Elect., 2.2μF, 50V
C302 ⚠	1	EA47703530	Elect., 470μF, 35V
C303 ⚠	1	EA47703530	Elect., 470μF, 35V
C304 ⚠	1	EA47702530	Elect., 470μF, 25V
C305 ⚠	1	EA22702530	Elect., 220μF, 25V
C307 ⚠	1	EA22802530	Elect., 2200μF, 25V
C308 ⚠	1	EA33702530	Elect., 330μF, 25V
C309 ⚠	1	EA22602530	Elect., 22μF, 25V
C311	1	DF15333300	Film, 0.033μF±5%, 50V
C312	1	DF15333300	Film, 0.033μF±5%, 50V
C313	1	DF15682300	Film, 6800pF ±5%, 50V
C314	1	DF15682300	Film, 6800pF ±5%, 50V
C315	1	DF75153510	Film, 0.015μF±5%, 100V

- (U): for U.S.A.
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- (A1): for Australia (Front Panel GD No. 3)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
C316	1	EA10505030	Elect., 1μF, 50V
C317	1	DF75562510	Film, 5600pF ±5%, 100V
C318	1	DF55221510	Film, 220pF ±5%, 125V
C319	1	DF55221510	Film, 220pF ±5%, 125V
C331	1	EA47601630	Elect., 10μF, 25V
C332	1	EA10602530	Elect., 10μF, 25V
C333	1	EA10701030	Elect., 100μF, 10V
C341	1	EA47405030	Elect., 0.1μF, 50V
C342	1	EA10602530	Elect., 10μF, 25V
			PK1A-MISCELLANEOUS–1
J301	1	YT02040260	Terminal, Line In/Out
L101	1	LS20015010	MPX Coil
L102	1	LC24750500	Choke Coil, 4.7mH
L103	1	LC22260500	Choke Coil, 22mH
L201	1	LS20015010	MPX Coil
L202	1	LC24750500	Choke Coil, 4.7mH
L203	1	LC22260500	Choke Coil, 22mH
L301	1	TC10150030	OSC Transf., Erase
P101	1	YP06002360	Plug, 3P
P201	1	YP06002360	Plug, 3P
P301	1	YP06002370	Plug, 2P
P351	27	YP10001130	Plug
			PK1A-SEMICONDUCTORS–1
Q102	1	HT313841R0	Transistor, 2SC1384(R)
Q103	1	HT313841R0	Transistor, 2SC1384(R)
Q104	1	HT326341S0	Transistor, 2SC2634(S)
Q105	1	HT326341T0	Transistor, 2SC2634(T)
Q106	1	HT326341T0	Transistor, 2SC2634(T)
Q107	1	HT326341S0	Transistor, 2SC2634(S)
Q108	1	HT326341S0	Transistor, 2SC2634(S)
Q109	1	HT326341S0	Transistor, 2SC2634(S)
Q110	1	HT326341S0	Transistor, 2SC2634(S)
Q111	1	HC10007270	IC, NE646B, Dolby
Q112	1	HT326341S0	Transistor, 2SC2634(S)
Q113	1	HD20001210	Diode, 1S2473C
Q114	1	HT326341S0	Transistor, 2SC2634(S)
Q115	1	HT326341T0	Transistor, 2SC2634(T)
Q116	1	HT326341S0	Transistor, 2SC2634(S)
Q117	1	HT326341S0	Transistor, 2SC2634(S)
Q118	1	HT326341S0	Transistor, 2SC2634(S)
Q119	1	HT326341S0	Transistor, 2SC2634(S)
Q120	1	HT326341S0	Transistor, 2SC2634(S)
Q121	1	HT326341S0	Transistor, 2SC2634(S)
Q122	1	HT326341S0	Transistor, 2SC2634(S)
Q123	1	HT326341S0	Transistor, 2SC2634(S)
Q124	1	HT326341S0	Transistor, 2SC2634(S)
Q125	1	HT326341S0	Transistor, 2SC2634(S)
Q127	1	HT326341S0	Transistor, 2SC2634(S)
Q128	1	HT326341T0	Transistor, 2SC2634(T)
Q129	1	HD10004020	Doide, OA-91
Q130	1	HD10004020	Diode, OA-91
Q202	1	HT313841R0	Transistor, 2SC1384(R)
Q203	1	HT313841R0	Transistor, 2SC1384(R)
Q204	1	HT326341S0	Transistor, 2SC2634(S)
Q205	1	HT326341T0	Transistor, 2SC2634(T)
Q206	1	HT326341T0	Transistor, 2SC2634(T)
Q207	1	HT326341S0	Transistor, 2SC2634(S)
Q208	1	HT326341S0	Transistor, 2SC2634(S)
Q209	1	HT326341S0	Transistor, 2SC2634(S)
Q210	1	HT326341S0	Transistor, 2SC2634(S)
Q211	1	HC10007270	IC, NE646B, Dolby

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
Q212	1	HT326341S0	Transistor, 2SC2634(S)
Q213	1	HD20001210	Diode, 1S2473C
Q214	1	HT326341S0	Transistor, 2SC2634(S)
Q215	1	HT326341T0	Transistor, 2SC2634(T)
Q216	1	HT326341S0	Transistor, 2SC2634(S)
Q217	1	HT326341S0	Transistor, 2SC2634(S)
Q218	1	HT326341S0	Transistor, 2SC2634(S)
Q219	1	HT326341S0	Transistor, 2SC2634(S)
Q220	1	HT326341S0	Transistor, 2SC2634(S)
Q221	1	HT326341S0	Transistor, 2SC2634(S)
Q222	1	HT326341S0	Transistor, 2SC2634(S)
Q223	1	HT326341S0	Transistor, 2SC2634(S)
Q224	1	HT326341S0	Transistor, 2SC2634(S)
Q225	1	HT326341S0	Transistor, 2SC2634(S)
Q227	1	HT326341S0	Transistor, 2SC2634(S)
Q228	1	HT326341T0	Transistor, 2SC2634(T)
Q229	1	HD10004020	Diode, OA-91
Q230	1	HD10004020	Diode, OA-91
Q301 ⚠	1	HD20021290	Diode, S1VB20
Q302 ⚠	1	HT403131E0	Transistor, 2SD313(E)
Q303 ⚠	1	HD30048090	Zener, WZ210
Q304 ⚠	1	HD20026080	Diode, RB-151, 100V, 1.5A
Q305 ⚠	1	HT403131F0	Transistor, 2SD313(F)
Q306	1	HD30024090	Zener, WZ-120
Q311	1	HT313841R0	Transistor, 2SC1384(R)
Q312	1	HT313841R0	Transistor, 2SC1384(R)
Q313	1	HD20001210	Diode, 1S2473C
Q314	1	HD20001210	Diode, 1S2473C
Q315	1	HT326341S0	Transistor, 2SC2634(S)
Q316	1	HD20001210	Diode, 1S2473C
Q317	1	HD20001210	Diode, 1S2473C
Q318	1	HT326341S0	Transistor, 2SC2634(S)
Q319	1	HD20001210	Diode, 1S2473C
Q320	1	HD20001210	Diode, 1S2473C
Q321	1	HT326341S0	Transistor, 2SC2634(S)
Q322	1	HT403131E0	Transistor, 2SD313(E)
Q323	1	HD20022100	Diode, 10E1-1FA
Q331	1	HT107501E0	Transistor, 2SA750(E)
Q332	1	HT326341S0	Transistor, 2SC2634(S)
Q333	1	HT326341S0	Transistor, 2SC2634(S)
Q334	1	HD30033090	Zener, WZ052 (JRC)
Q335	1	HD20001210	Diode, 1S2473C
Q336	1	HT107501E0	Transistor, 2SA750(E)
Q337	1	HT326341S0	Transistor, 2SC2634(S)
Q339	1	HD20001210	Diode, 1S2473C
			PK1A-RESISTORS–1 (All resistors are ±5%, ¼W and fixed type, unless otherwise specified.)
R101	1	GD05272140	2.7kΩ
R102	1	GD05272140	2.7kΩ
R105	1	GD05223140	22kΩ
R106	1	GD05184140	180kΩ
R107	1	GD05151140	150Ω
R108	1	GD05333140	33kΩ
R109	1	GD05104140	100kΩ
R110	1	GD05103140	10kΩ
R111	1	GD05101140	100Ω
R112	1	GD05561140	560Ω
R113	1	GD05392140	3.9kΩ
R114	1	GD05472140	4.7kΩ
R115	1	GD05274140	270kΩ

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REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
R117	1	GD05822140	8.2kΩ
R118	1	GD05103140	10kΩ
R119	1	GD05822140	8.2kΩ
R121	1	GD05332140	3.3kΩ
R122	1	GD05393140	39kΩ
R123	1	GD05104140	100kΩ
R124	1	GD05394140	390kΩ
R120	1	GD05334140	330kΩ
R125	1	GD05104140	100kΩ
R126 ⚠	1	GG05102140	1kΩ
R127	1	GD05103140	10kΩ
R128	1	GD05104140	100kΩ
R129	1	GD05394140	390kΩ
R132	1	GD05223140	22kΩ
R135	1	GD05274140	270kΩ
R136	1	GD05473140	47kΩ
R137	1	GD05181140	180Ω
R138	1	GD05104140	100kΩ
R139	1	GD05224140	220kΩ
R140	1	GD05332140	3.3kΩ
R141	1	GD05102140	1kΩ
R142	1	GD05102140	1kΩ
R144	1	GD05682140	6.8kΩ
R145	1	GD05222140	2.2kΩ
R146	1	GD05103140	10kΩ
R147	1	GD05103140	10kΩ
R148	1	GD05682140	6.8kΩ
R149	1	GD05334140	330kΩ
R150	1	GD05823140	82kΩ
R151	1	GD05472140	4.7kΩ
R152	1	GD05102140	1kΩ
R153	1	GD05103140	10kΩ
R154	1	GD05563140	56kΩ
R155	1	GD05332140	3.3kΩ
R156	1	GD05152140	1.5kΩ
R157	1	GD05103140	10kΩ
R158	1	GD05271140	270Ω
R159	1	GD05681140	680Ω
R160	1	GD05103140	10kΩ
R161	1	GD05272140	2.7kΩ
R162	1	GD05222140	2.2kΩ
R163	1	GD05103140	10kΩ
R164	1	GD05560140	56Ω
R165	1	GD05103140	10kΩ
R166	1	GD05560140	56Ω
R167	1	GD05103140	10kΩ
R168	1	GD05680140	68Ω
R169	1	GD05103140	10kΩ
R170	1	GD05101140	100Ω
R171	1	GD05104140	100kΩ
R172	1	GD05104140	100kΩ
R173	1	GD05104140	100kΩ
R174	1	GD05104140	100kΩ
R175	1	GD05153140	15kΩ
R176	1	GD05102140	1kΩ
R178	1	GD05822140	8.2kΩ
R181	1	GD05472140	4.7kΩ
R182	1	GD05105140	1MΩ
R183	1	GD05562140	5.6kΩ
R184	1	GD05272140	2.7kΩ
R185	1	GD05104140	100kΩ
R186	1	GA05681010	680Ω ±5%, 1W

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
R187	1	GD05151140	150Ω
R188	1	GD05102140	1kΩ
R189	1	RA05020300	Trimming, 50kΩ (Meter Adj.)
R190	1	GD05123140	12kΩ
R201	1	GD05272140	2.7kΩ
R191	1	GD05153140	15kΩ
R202	1	GD05272140	2.7kΩ
R205	1	GD05223140	22kΩ
R206	1	GD05184140	180kΩ
R207	1	GD05151140	150Ω
R208	1	GD05333140	33kΩ
R209	1	GD05104140	100kΩ
R210	1	GD05103140	10kΩ
R211	1	GD05101140	100Ω
R212	1	GD05561140	560Ω
R213	1	GD05392140	3.9kΩ
R214	1	GD05472140	4.7kΩ
R215	1	GD05274140	270kΩ
R217	1	GD05822140	8.2kΩ
R218	1	GD05103140	10kΩ
R219	1	GD05822140	8.2kΩ
R221	1	GD05332140	3.3kΩ
R222	1	GD05273140	27kΩ
R223	1	GD05104140	100kΩ
R224	1	GD05394140	390kΩ
R225	1	GD05104140	100kΩ
R220	1	GD05334140	330kΩ
R226 ⚠	1	GG05102140	1kΩ
R227	1	GD05103140	10kΩ
R228	1	GD05104140	100kΩ
R229	1	GD05394140	390kΩ
R232	1	GD05223140	22kΩ
R235	1	GD05274140	270kΩ
R236	1	GD05473140	47kΩ
R237	1	GD05181140	180Ω
R238	1	GD05104140	100kΩ
R239	1	GD05224140	220kΩ
R240	1	GD05332140	3.3kΩ
R241	1	GD05102140	1kΩ
R242	1	GD05102140	1kΩ
R244	1	GD05682140	6.8kΩ
R245	1	GD05222140	2.2kΩ
R246	1	GD05103140	10kΩ
R247	1	GD05103140	10kΩ
R248	1	GD05682140	6.8kΩ
R249	1	GD05334140	330kΩ
R250	1	GD05823140	82kΩ
R251	1	GD05472140	4.7kΩ
R252	1	GD05102140	1kΩ
R253	1	GD05103140	10kΩ
R254	1	GD05563140	56kΩ
R255	1	GD05332140	3.3kΩ
R256	1	GD05152140	1.5kΩ
R257	1	GD05103140	10kΩ
R258	1	GG05271140	270Ω
R259	1	GD05681140	680Ω
R260	1	GD05103140	10kΩ
R261	1	GD05272140	2.7kΩ
R262	1	GD05222140	2.2kΩ
R263	1	GD05103140	10kΩ
R264	1	GD05560140	56Ω
R265	1	GD05103140	10kΩ
R266	1	GD05560140	56Ω
R267	1	GD05103140	10kΩ

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REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
R268	1	GD05680140	68Ω
R269	1	GD05103140	10kΩ
R270	1	GD05101140	100Ω
R271	1	GD05104140	100kΩ
R272	1	GD05104140	100kΩ
R273	1	GD05104140	100kΩ
R274	1	GD05104140	100kΩ
R275	1	GD05153140	15kΩ
R276	1	GD05102140	1kΩ
R278	1	GD05822140	8.2kΩ
R281	1	GD05472140	4.7kΩ
R282	1	GD05105140	1MΩ
R283	1	GD05562140	5.6kΩ
R284	1	GD05272140	2.7kΩ
R285	1	GD05104140	100kΩ
R286	1	GA05681010	680Ω ±5%, 1W
R287	1	GD05151140	150Ω
R288	1	GD05102140	1kΩ
R289	1	RA05020300	Trimming, 5kΩ (Meter Adj.)
R290	1	GD05123140	12kΩ
R301 ⚠	1	GA05100010	10Ω ±5%, 1W
R302 ⚠	1	GA05821010	820Ω ±5%, 1W
R291	1	GD05153140	15kΩ
R303 ⚠	1	GG05471120	470Ω ±5%, ½W
R304	1	GD05562140	5.6kΩ
R305	1	GD05681140	680Ω
R306	1	GD05272120	2.7kΩ ±5%, ½W
R311	1	GD05273140	27kΩ
R312	1	GD05273140	27kΩ
R313	1	GD05100140	10Ω
R314	1	GD05103140	10kΩ
R315	1	GD05103140	10kΩ
R316	1	RA05030010	Trimming, 50kΩ (Bias Adj.)
R317	1	RA05030010	Trimming, 50kΩ (Bias Adj.)
R318	1	GD05562140	5.6kΩ
R319	1	GD05822140	8.2kΩ
R320	1	GD05473140	47kΩ
R321	1	GD05223140	22kΩ
R322	1	GD05473140	47kΩ
R324	1	GD05473140	47kΩ
R325	1	GD05222140	2.2kΩ
R331	1	GD05223140	22kΩ
R332	1	GD05103140	10kΩ
R333	1	GD05103140	10kΩ
R334	1	GD05223140	22kΩ
R335	1	GD05223140	22kΩ
R336	1	GD05103140	10kΩ
R337	1	GD05103140	10kΩ
R338	1	GD05104140	100kΩ
R339	1	GD05102140	1kΩ
R341	1	GD05103140	10kΩ
R342	1	GD05224140	220kΩ
R343	1	GD05223140	22kΩ
R344	1	GD05331140	330Ω
R345	1	GD05223140	22kΩ
			PK1A-SWITCHES
S301	1	SP02050050	Pushswitch, Tape Selector (NORMAL)
S302	1	SP02050050	Pushswitch, Tape Selector (SPECIAL/CrO_2)
S303	1	SP02050050	Pushswitch, Tape Selector (FeCr)
S304	1	SP02050050	Pushswitch, Tape Selector (METAL)
S305	1	SP02050050	Pushswitch, DOLBY NR

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
			PK1A-CAPACITORS–2 (SD3020/SD1020 Only)
C401	1	DF15103300	Film, 0.01μF ±5%, 50V
C402	1	DF15103300	Film, 0.01μF ±5%, 50V
C403	1	DF15153300	Film, 0.015μF±5%, 50V
C404	1	DF15153300	Film, 0.015μF±5%, 50V
C405	1	DF15153300	Film, 0.015μF±5%, 50V
C406	1	DF15123300	Film, 0.012μF±5%, 50V
C407	1	DF15123300	Film, 0.012μF±5%, 50V
C408	1	DF15123300	Film, 0.012μF±5%, 50V
C409	1	DF15272300	Film, 2700pF ±5%, 50V
C431	1	DF15103300	Film, 0.01μF ±5%, 50V
C432	1	DF15103300	Film, 0.01μF ±5%, 50V
C433	1	DF15153300	Film, 0.015μF±5%, 50V
C434	1	DF15153300	Film, 0.015μF±5%, 50V
C435	1	DF15153300	Film, 0.015μF±5%, 50V
C436	1	DF15123300	Film, 0.012μF±5%, 50V
C437	1	DF15123300	Film, 0.012μF±5%, 50V
C438	1	DF15123300	Film, 0.012μF±5%, 50V
C439	1	DF15272300	Film, 2700pF ±5%, 50V
C461	1	EA47405030	Elect, 0.47μF, 50V
			PK1A-SEMICONDUCTORS–2 (SD3020/SD1020 Only)
Q401	1	HT326341S0	Transistor, 2SC2634(S)
Q402	1	HT326341S0	Transistor, 2SC2634(S)
Q403	1	HT326341S0	Transistor, 2SC2634(S)
Q404	1	HT326341S0	Transistor, 2SC2634(S)
Q405	1	HT326341S0	Transistor, 2SC2634(S)
Q406	1	HT326341S0	Transistor, 2SC2634(S)
Q407	1	HT326341S0	Transistor, 2SC2634(S)
Q408	1	HT326341S0	Transistor, 2SC2634(S)
Q409	1	HT326341S0	Transistor, 2SC2634(S)
Q431	1	HT326341S0	Transistor, 2SC2634(S)
Q432	1	HT326341S0	Transistor, 2SC2634(S)
Q433	1	HT326341S0	Transistor, 2SC2634(S)
Q434	1	HT326341S0	Transistor, 2SC2634(S)
Q435	1	HT326341S0	Transistor, 2SC2634(S)
Q436	1	HT326341S0	Transistor, 2SC2634(S)
Q437	1	HT326341S0	Transistor, 2SC2634(S)
Q438	1	HT326341S0	Transistor, 2SC2634(S)
Q439	1	HT326341S0	Transistor, 2SC2634(S)
Q471	1	HT326341S0	Transistor, 2SC2634(S)
Q472	1	HD20001210	Diode, 1S2473
Q473	1	HD20001210	Diode, 1S2473
Q474	1	HD30031090	Zener, WZ-081
			PK1A-RESISTORS–2 (SD3020/SD1020 Only) (All resistors are ±5%, ¼W and fixed type, unless otherwise specified.)
R401	1	GD05103140	10kΩ
R402	1	GD05222140	2.2kΩ
R403	1	GD05103140	10kΩ
R404	1	GD05822140	8.2kΩ
R405	1	GD05334140	330kΩ
R406	1	GD05103140	10kΩ
R407	1	GD05561140	560Ω
R408	1	GD05103140	10kΩ
R410	1	GD05471140	470Ω
R411	1	GD05103140	10kΩ
R412	1	GD05222140	2.2kΩ
R413	1	GD05820140	82Ω
R414	1	GD05103140	10kΩ

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REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
R415	1	GD05221140	220Ω
R416	1	GD05103140	10kΩ
R417	1	GD05221140	220Ω
R418	1	GD05103140	10kΩ
R419	1	GD05221140	220Ω
R420	1	GD05103140	10kΩ
R421	1	GD05331140	330Ω
R431	1	GD05103140	10kΩ
R432	1	GD05222140	2.2kΩ
R433	1	GD05103140	10kΩ
R434	1	GD05822140	8.2kΩ
R435	1	GD05334140	330kΩ
R436	1	GD05103140	10kΩ
R437	1	GD05561140	560Ω
R438	1	GD05103140	10kΩ
R440	1	GD05471140	470Ω
R441	1	GD05103140	10kΩ
R442	1	GD05222140	2.2kΩ
R443	1	GD05820140	82Ω
R444	1	GD05103140	10kΩ
R445	1	GD05221140	220Ω
R446	1	GD05103140	10kΩ
R447	1	GD05221140	220Ω
R448	1	GD05103140	10kΩ
R449	1	GD05221140	220Ω
R450	1	GD05103140	10kΩ
R451	1	GD05331140	330Ω
R461	1	GD05102140	1kΩ
R471	1	RA03020050	Trimming, 3kΩ (Speed Adj.)
R472	1	GD05822140	8.2kΩ
R473	1	GD05562140	5.6kΩ
R474	1	GD05103140	10kΩ
			PK1A-MISCELLANEOUS–2
Q601	1	HD20001210	Diode, 1S2473C (SD3020 Only)
Q651	1	HI11203320	LED, LT-1008, Display (SD3020 Only)
Q652	1	HI10008320	LED, GL-9PR2, REC Ind. (SD3020 Only)
Q653	1	HI10008320	LED, GL-9PR2, DOLBY NR Ind. (SD3020 Only)
R601	1	GG05272120	Resistor, Fixed, 2.7kΩ ±5%, ½W (SD3020 Only)
R802	1	GA05220020	Resistor, Fixed, 22Ω ±5%, 2W (SD1020/SD1010 Only)
R901	1	GG05182120	Resistor, Fixed, 1.8kΩ ±5%, ½W (SD3020 Only)
P651	1	YP06002380	Plug, 7P (SD3020 Only)
			PK1A-CAPACITORS–3 (SD3020 Only)
C701	1	DF15102350	Film, 0.001μF±5%, 50V
C702	1	DD15220300	Ceramic, 22pF ±5%, 50V
C703	1	EA47503530	Elect., 4.7μF, 35V
C704	1	EA10505030	Elect., 1μF, 50V
C705	1	EA22405030	Elect., 0.22μF, 50V
C706	1	EA10505030	Elect., 1μF, 50V
C707	1	EA22405030	Elect., 0.22μF, 50V
C708	1	EA22505030	Elect., 2.2μF, 50V
C709	1	EA22405030	Elect., 0.22μF, 50V
			PK1A-SEMICONDUCTORS–2 (SD3020 Only)
Q611	1	HD20001210	Diode, 1S2473C
Q613	1	HH00003030	Thermistor, SDT-04
Q621	1	HD20001210	Diode, 1S2473C

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
Q623	1	HH00003030	Thermistor, SDT-04
Q701	1	HT326341S0	Transistor, 2SC2634(S)
Q702	1	HD30031090	Zener, WZ-081
Q703	1	HC10020210	IC, BA336
Q704	1	HT326341S0	Transistor, 2SC2634(S)
Q705	1	HT313831C0	Transistor, 2SC1383(R)
Q706	1	HD20022100	Diode, 10E1-1FA
Q707	1	HT326341S0	Transistor, 2SC2634(S)
Q708	1	HT326341S0	Transistor, 2SC2634(S)
			PK1A-RESISTORS–3 (SD3020 Only) (All resistors are ±5%, ¼W, and fixed type.)
R611	1	GD05153140	15kΩ
R613	1	GD05103140	10kΩ
R621	1	GD05123140	12kΩ
R623	1	GD05103140	10kΩ
R701	1	GD05563140	56kΩ
R702	1	GD05563140	56kΩ
R703	1	GD05155140	1.5MΩ
R704	1	GD05562140	5.6kΩ
R705	1	GD05103140	10kΩ
R706	1	GD05102140	1kΩ
R707	1	GD05334140	330kΩ
R708	1	GD05334140	330kΩ
R709	1	GD05221140	220Ω
R710	1	GD05223140	22kΩ
R711	1	GD05102140	1kΩ
R712	1	GD05181140	180Ω
R713	1	GD05102140	1kΩ
R714	1	GD05181140	180Ω
			PK1B-MIC AMP CIRCUIT BOARD
PK1B	1	YK108T11B0	P.W. Board, MIC Amp
	1	ZZ108T11B0	P.W. Board Assembly
			PK1B-CAPACITORS
C501	1	EA10505030	Elect., 1μF, 50V
C502	1	EA22602530	Elect., 22μF, 25V
C503	1	DD15150300	Ceramic, 15pF ±5%, 50V
C504	1	EA22505030	Elect., 2.2μF, 50V
C505	1	DD15470370	Ceramic, 47pF ±5%, 50V
C521	1	EA10505030	Elect., 1μF, 50V
C522	1	EA22602530	Elect., 22μF, 25V
C523	1	DD15150300	Ceramic, 15pF ±5%, 50V
C524	1	EA22505030	Elect., 2.2μF, 50V
C525	1	DD15470370	Ceramic, 47pF ±5%, 50V
C531 ⚠	1	EA10602530	Elect., 10μF, 25V
C532	1	DK18102300	Ceramic, 0.001μF+80%,−20%,50V
C533	1	DK18102300	Ceramic, 0.001μF+80%,−20%,50V
			PK1B-RESISTORS (All resistors are ±5%, ¼W and fixed type.)
R501	1	GD05681140	680Ω
R502	1	GD05562140	5.6kΩ
R503	1	GD05103140	10kΩ
R504	1	GD05821140	820Ω
R505	1	GD05153140	15kΩ
R506	1	GD05104140	100kΩ
R507	1	GD05102140	1kΩ
R508	1	GD05223140	22kΩ
R521	1	GD05681140	680Ω
R522	1	GD05562140	5.6kΩ
R523	1	GD05103140	10kΩ
R524	1	GD05821140	820Ω

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REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
R525	1	GD05153140	15kΩ
R526	1	GD05104140	100kΩ
R527	1	GD05102140	1kΩ
R528	1	GD05223140	22kΩ
			PK1B-MISCELLANEOUS
J501	1	YT01001440	Jack, Headphone
J502	1	BY01020120	Jack, MIC(L)
J503	1	BY01020120	Jack, MIC(R)
Q501	1	HC10006090	IC, NJM387
			PK1C-RECORD LEVEL CONTROL CIRCUIT BOARD
PK1C	1	YK108T11C0	P.W. Board, Record Level Cont.
	1	ZZ108T11C0	P.W. Board Assembly
			PK1C-RESISTORS
R551	1	RK02030560	Variable, 20kΩ(L)
R552	1	RK02030560	Variable, 20kΩ(R)
			PK1D-POWER LED CIRCUIT BOARD (SD3020 Only)
PK1D	1	YK108T11D0	P.W. Board, Power LED
	1	ZZ108T11D0	P.W. Board Assembly
Q951	1	HI10009020	LED, LN26RP, Power Ind.
			PK1E-TAPE SPEED SELECTOR SWITCH CIRCUIT BOARD (SD3020 & SD1020 Only)
PK1E	1	YK108T11E0	P.W. Board, Tape Speed Selector Switch
	1	ZZ108T11E0	P.W. Board Assembly
S401	1	SR02020020	Rotary Switch, Tape Speed
			PK1F-SK1P SWITCH CIRCUIT BOARD (SD3020 Only)
PK1F	1	YK108T11F0	P.W. Board, Skip Switch
	1	ZZ108T11F0	P.W. Board Assembly
			PK1F-RESISTOR & SWITCH
R751	1	GG05681120	Resistor, Fixed, 680Ω±5%, ½W
S751	1	SP02020530	Pushswitch, Skip
			PK1G-SKIP LED CIRCUIT BOARD (SD3020 Only)
PK1G	1	YK108T11G0	P.W. Board, Skip LED
	1	ZZ108T11G0	P.W. Board Assembly
Q761	1	HI10007030	LED, SLP-232B, Skip Ind.
			PK1H-VU METER CIRCUIT BOARD (SD1010 & SD1020 Only)
PK1H	1	YK108T11H0	P.W. Board, VU Meter
	1	ZZ108T11H0	P.W. Board Assembly [For SD1020(U, C) & SD1010(U)]
	1	ZZ108T81H0	P.W. Board Assembly (For N, P & A)
			PK1H-MISCELLANEOUS
G851	1	IM11060060	DC Meter, VU(L) (For U/C/A)
G852	1	IM11060060	DC Meter, VU(R) (For U/C/A)
G851	1	IM11060080	DC Meter, VU(L) (For N)
G852	1	IM11060080	DC Meter, VU(R) (For N)

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
Q851	1	HI10006060	LED, SR-531D, Rec Ind.
			PK1I-POWER TRANSF. BOARD
PK1I	1	YK108T11I0	P.W. Board, Power Transf.
			PK1J-REC/PLAY SWITCH CIRCUIT BOARD
PK1J	1	YK108T11J0	P.W. Board, Rec/Play Switch
	1	ZZ108T11J0	P.W. Board Assembly
S002	1	SM02020070	Mini Switch
			GENERAL MISCELLANEOUS
C901 ⚠	1	DK18103530	Ceramic Cap. 0.01μF (For U/C)
C901 ⚠	1	DK18103840	Ceramic Cap. 0.01μF (For N)
C901 ⚠	1	DK18103850	Ceramic Cap. 0.01μF (For A/P)
F001 ⚠	1	FS10012800	Fuse, T125MA (For N/A)
F001 ⚠	1	FS10030610	Fuse, 0.3A (For P)
F901 ⚠	1	FS10040800	Fuse, T400MA (For N/A)
F901 ⚠	1	FS10100700	Fuse, 1A (For P)
F902 ⚠	1	FS10040800	Fuse, T400MA (For N/A)
F902 ⚠	1	FS10150700	Fuse, 1.5A (For P)
J001 ⚠	1	YJ08000290	Jack, Fuse Holder (For N/A)
J001 ⚠	1	YJ08000230	Jack, Fuse Holder (For P)
J002 ⚠	1	YP04000580	Plug, AC Inlet (For N/A/P)
J901 ⚠	1	YJ08000200	Jack, Fuse Clip (For N/A/P)
J902 ⚠	1	YJ08000200	Jack, Fuse Clip (For N/A/P)
J903 ⚠	1	YJ08000200	Jack, Fuse Clip (For N/A/P)
J904 ⚠	1	YJ08000200	Jack, Fuse Clip (For N/A/P)
L001 ⚠	1	TS15401220	Power Transf. (For U/C)
L001 ⚠	1	TS15401230	Power Transf. (For N/P)
L001 ⚠	1	TS15401240	Power Transf. (For A)
S001 ⚠	1	SP01010280	Pushswitch, Power (For U/C)
S001 ⚠	1	SP01010410	Pushswitch, Power (For N/A)
S001 ⚠	1	SP02010490	Pushswitch, Power (For P)
S002 ⚠	1	BY05060040	Voltage Selector, 110/220V (For N/A/P)
J030	1	YJ04000240	Jack, AC Adaptor (For P)
W001 ⚠	1	YC01900070	AC Power Cord (For U/C)
W001	1	ZC01805010	AC Power Cord (For N)
W001	1	ZC02006020	AC Power Cord (For A)
W001	1	YC01800170	AC Power Cord (For P)
Z001	2	ZD1000170	Connective Cord
002V	1	4136071010	Cleaner
003V	1	9011525010	Polyethylene Bag (For N/A)
003V	1	9011325010	Polyethylene Bag (For P)

10. TECHNICAL SPECIFICATIONS

[FOR U.S.A. & CANADA (SD3020)]

Type	Front loading 4-Track, 2-Channel Stereo Record/Playback System	
Tape	Philips-type Compact Cassette	
Tape Speeds	High: 3-3/4 ips (9.52 cm/sec)	Standard: 1-7/8 ips (4.76 cm/sec)
Motor Drive System	DC Servo Motor (x1) with Single Capstan Drive	
Heads	2 Head System	
	Erase Head: Ferrite	
	Record/Play Head: Super Hard Metal Alloy	
Level Indicators	Left and Right Peak Level Displays	
Noise Reduction System	Dolby NR	
Semiconductors		
Transistors	57	
IC's	8	
Diodes	31	
LED's	4	
Wow/Flutter (RMS)	**High Speed**	**Standard Speed**
	0.07%	0.1%
Frequency Response		
(Overall – 25 dB below Dolby Level)		
Metal	40 Hz ~ 19 kHz (±3 dB)	40 Hz ~ 14 kHz (±3 dB)
Ferrichrome (FeCr)	40 Hz ~ 18 kHz (±3 dB)	40 Hz ~ 13 kHz (±3 dB)
Chromium Dioxide (CrO_2)	40 Hz ~ 19 kHz (±3 dB)	40 Hz ~ 14 kHz (±3 dB)
Ferric (Normal)	40 Hz ~ 17 kHz (±3 dB)	40 Hz ~ 12.5 kHz (±3 dB)
Signal-to-Noise Ratio		
Dolby ON	65 dB	65 dB
Dolby OFF	57 dB	54 dB
Outputs		
Line: Level	500 mV	
Impedance	10 kΩ	
Headphone: Level	50 mV	
Impedance	68 Ω	
Inputs (Level at 0 VU)		
Line: Sensitivity	−32 dBV (25 mV)	
Impedance	68 kΩ	
Mic: Sensitivity	−72 dBV (25 mV)	
Impedance	10kΩ	
Fast Rewind Time	Approx. 105 sec. (C-60 cass.)	
Fast Forward Time	Approx. 105 sec. (C-60 cass.)	
Bias Frequency	105 kHz	
Power Requirements	120 V AC, 60 Hz	
Power Consumption	20 Watts	
Dimensions (W x H x D)	16-3/8 in. x 5-3/4 in. x 9-9/16 in.	
	(41.6 cm) x (14.6 cm) x (24.4 cm)	
Net Weight	14 lbs., 9 oz. (5.7 kg)	

NOTES:
1. Reference recording level: 0 VU (160 nWB/M)
2. Reference frequency: 315 Hz
3. Wow and flutter measured at: 3.0 kHz NAB WGTD RMS
4. Frequency response measured at: 25 dB Below Dolby level recording level reference (Dolby off)
5. S/N ratio measured at the recorded level equivalent to 3% THD, 24 dB/oct, H.P.F. 5 kHz WGTD, 70 μSec. EQ.
6. Recording reference tapes:
   Standard: TDK AC 212
   CrO_2: TDK AC 512
   FeCr: Sony CS 30
   Metal: TDK AC 711

* Specifications and exterior design subject to change without notice.

[FOR EUROPE (SD3020)]

Style		Front Load
Tape Drive System		Single Capstan Drive
Cartridge		Philipes type compact cassette
Track System		Compatible Stereo 4-track 2-channel
Tapes Speed		4.75 cm/sec. & 9.5 cm/sec.
Heads		2 Heads System
Composition		Rec/Play: Super Hard Metal Alloy Erase: Ferrite
Motor		DC Servo Controlled Motor x 1
Meters		LED Peak x 2
Recording System		AC Bias
Erasing System		AC Erase
Semiconductor Complement		
Transistors		57
Diodes		31
IC's		8
LED's		4
Overall Frequency Response (Dolby off):	**Tape Speed: at 20 dB for 4.75 cm/sec.**	**Tape Speed: at 10 dB for 9.5 cm/sec.**
Ferric Oxide Tape	40 Hz ~ 12.5 kHz (±3 dB)	40 Hz ~ 16 kHz (±3 dB)
CrO_2 Tape	40 Hz ~ 14 kHz (±3 dB)	40 Hz ~ 17 kHz (±3 dB)
FeCr Tape	40 Hz ~ 13 kHz (±3 dB)	40 Hz ~ 18 kHz (±3 dB)
Metal Tape	40 Hz ~ 14 kHz (±3 dB)	40 Hz ~ 19 kHz (±3 dB)
Signal-to-Noise Ratio (CrO_2)	**Tape Speed: 4.75 cm/sec.**	**Tape Speed: 9.5 cm/sec.**
Dolby (ON)	65 dB	65 dB
Dolby (OFF)	56 dB	59 dB
Wow and Flutter		
DIN WTD	0.17%	0.13%
WRMS	0.08%	0.06%
Outputs		
Line Level/Impedance		600 mV/10 kΩ
Headphone Level/Impedance		50mV/68 Ω
Inputs (Level at 0 VU)		
Line Sensitivity/Impedance		25 mV/68 kΩ
Mic Sensitivity/Impedance		0.25 mV/10 kΩ
Fast Rewind Time		105 sec.
Fast Forward Time		105 sec.
AC Line Voltage		220 V AC, 50 Hz (E/N versions are featuring an external voltage selector for use on 110/220 V. T/A versions 220/240 V AC, 50/60 Hz.)
Power Consumption		20 W
Dimensions (W x H x D)		416 mm x 146 mm x 244 mm
Weight		5.7 kg

* Specifications and exterior design subject to change without notice.

[FOR U.S.A & CANADA (SD1020)]

Type	Front Loading 4-Track, 2-Channel Record/Playback System	
Tape	Philips-type Compact Cassette	
Tape Speed	High: 3-3/4 ips (9.52 cm/s)	Standard: 1-7/8 ips (4.76 cm/s)
Motor Drive System	DC Servo Motor (x1) with Single Capstan Drive	
Heads	2 Head System	
	Erase Head: Ferrite	
	Record/Play Head: Super Hard Metal Alloy	
Level Indicators	Left and Right Illuminated VU Meters	
Noise Reduction System	Dolby NR	
Semiconductors		
Transistors	54	
IC's	7	
Diodes	24	
LED's	1	
Wow & Flutter (RMS)	**High Speed**	**Standard Speed**
	0.07%	0.1%
Frequency Response		
(Overall; —25 dB below Dolby Level)		
Metal	40 Hz ~ 19 kHz (±3 dB)	40 Hz ~ 14 kHz (±3 dB)
Ferrichrome (FeCr)	40 Hz ~ 18 kHz (±3 dB)	40 Hz ~ 13 kHz (±3 dB)
Chromium Dioxide (CrO_2)	40 Hz ~ 19 kHz (±3 dB)	40 Hz ~ 14 kHz (±3 dB)
Ferric (Normal)	40 Hz ~ 17 kHz (±3 dB)	40 Hz ~ 12.5 kHz (±3 dB)
Signal-to-Noise Ratio		
Dolby ON	65 dB	65 dB
Dolby OFF	57 dB	54 dB
Outputs		
Line: Level	600 mV	
Impedance	10 kΩ	
Headphone: Level	50 mV	
Impedance	68 Ω	
Inputs (level at 0 VU)		
Line: Sensitivity	—32 dBV (25 mV)	
Impedance	68 kΩ	
Mic: Sensitivity	—72 dBV (0.25 mV)	
Impedance	10 kΩ	
Fast Rewind Time	Approx. 105 sec. (C-60 cass.)	
Fast Forward Time	Approx. 105 sec. (C-60 cass.)	
Bias Frequency	105 kHz	
Power Requirements	120 V AC, 60 Hz	
Power Consumption	20 Watts	
Dimensions (W x H x D)	16-3/8 in. x 5-3/4 in. x 9-9/16 in.	
	(41.6 cm) x (14.6 cm) x (24.4 cm)	
Net Weight	13 lbs. 4 ozs. (5.5 kg)	

NOTES:
1. Reference recording Level: 0 VU (160 nWB/M)
2. Reference frequency: 315 Hz
3. Wow and Flutter measured at: 3.0 kHz NAB WGTD RMS
4. Frequency response measured at: 25 dB below Dolby level recording level reference (Dolby off)
5. S/N ratio measured at the recorded level equivalent to 3% THD, 24 dB/oct, H.P.F. 5 kHz WGTD, 70 μSec. EQ.
6. Recording reference tapes:
   Normal: TDK AC 212
   CrO_2: TDK AC 512
   FeCr: Sony CS 30
   Metal: TDK AC 711

* Specifications and exterior design subject to change without notice.

[FOR EUROPE (SD1020)]

Style	Front Load	
Tape Drive System	Single Capstan Drive	
Cartridge	Philips type compact cassette	
Track System	Compatible Stereo 4-track 2-channel	
Tape Speed	4.75 cm/sec. & 9.5 cm/sec.	
Heads	2 Head System	
Composition	Rec/Play: Super Hard Metal Alloy	
	Erase: Ferrite	
Motor	DC Servo Controlled Motor x 1	
Meters	VU-Meters x 2	
Recording System	AC Bias	
Erasing System	AC Erase	
Semiconductor Complement		
Transistors	54	
Diodes	24	
IC's	7	
LED's	1	
Overall Frequency Response (Dolby off)	**Tape Speed: at 20 dB for 4.75 cm/sec.**	**Tape Speed: at 10 dB for 9.5 cm/sec.**
Ferric Oxide Tape	40 Hz ~ 12.5 kHz (±3 dB)	40 Hz ~ 15 kHz (±3 dB)
CrO_2 Tape	40 Hz ~ 14 kHz (±3 dB)	40 Hz ~ 16 kHz (±3 dB)
FeCr Tape	40 Hz ~ 13 kHz (±3 dB)	40 Hz ~ 17 kHz (±3 dB)
Metal Tape	40 Hz ~ 14 kHz (±3 dB)	40 Hz ~ 18 kHz (±3 dB)
Signal-to-Noise Ratio (CrO_2)	**Tape Speed: 4.75 cm/sec.**	**Tape Speed: 9.5 cm/sec.**
Dolby (ON)	65 dB	65 dB
Dolby (OFF)	55 dB	58 dB
Wow and Flutter		
DIN WTD	0.17%	0.13%
WRMS	0.08%	0.06%
Outputs		
Line Level/Impedance	600 mV/10 kΩ	
Headphone Level/Impedance	50 mV/68 Ω	
Inputs (Level at 0 VU)		
Line Sensitivity/Impedance	25 mV/68 kΩ	
Mic Sensitivity/Impedance	0.25 mV/10 kΩ	
Fast Rewind Time	105 sec.	
Fast Forward Time	105 sec.	
AC Line Voltage	220 V AC, 50 Hz	
	(E/N versions are featuring an external voltage selector for use on 110/220 V. T/A versions 220/240 V AC, 50/60 Hz.)	
Power Consumption	20 W	
Dimensions (W x H x D)	416 mm x 146 mm x 244 mm	
Weight	5.5 kg	

* Specifications and exterior design subject to change without notice.

[FOR EUROPE (SD1010)]

Style	Front load
Tape Drive System	Single Capstan Drive
Cartridge	Philips type compact cassette
Track System	Compatible Stereo 4-track 2 channel
Tape Speed	4.75 cm/sec
Heads	2 Head System
Composition	Rec/Play: Super Hard Metal Alloy Erase: Ferrite
Motor	DC Servo Controlled Motor x 1
Meters	VU Meters x 2
Recording System	AC Bias
Erasing System	AC Erase
Semiconductor Complement	
Transistors	49
Diodes	18
IC's	5
LED's	1
Overall Frequency Response (Dolby off):	
Ferric Oxide Tape	40 Hz to 12.5 kHz (±3 dB)
CrO_2 Tape	40 Hz to 14 kHz (±3 dB)
FeCr Tape	40 Hz to 13 kHz (±3 dB)
Metal Tape	40 Hz to 14 kHz (±3 dB)
Signal-to-Noise Ratio (CrO_2)	
Dolby (ON)	65 dB
Dolby (OFF)	55 dB
Wow and Flutter	
DIN WTD	0.17%
WRMS	0.08%
Outputs	
Line Level/Impedance	600 mV/10 kΩ
Headphone Level/Impedance	50 mV/68 Ω
Inputs (Level at 0 VU)	
Line Sensitivity/Impedance	25 mV/68 kΩ
Mic Sensitivity/Impedance	0.25 mV/10 kΩ
Fast Rewind time	105 sec.
Fast Forward time	105 sec.
AC Line Voltage	220 V AC, 50 Hz (E/N versions are featuring an external voltage selector for use on 110/220 V. T/A versions 220/240 V AC, 50/60 Hz)
Power Consumption	20 W
Dimensions (W x H x D)	416 mm x 146 mm x 244 mm
Weight	5.5 kg

* Specifications and exterior design subject to change without notice.

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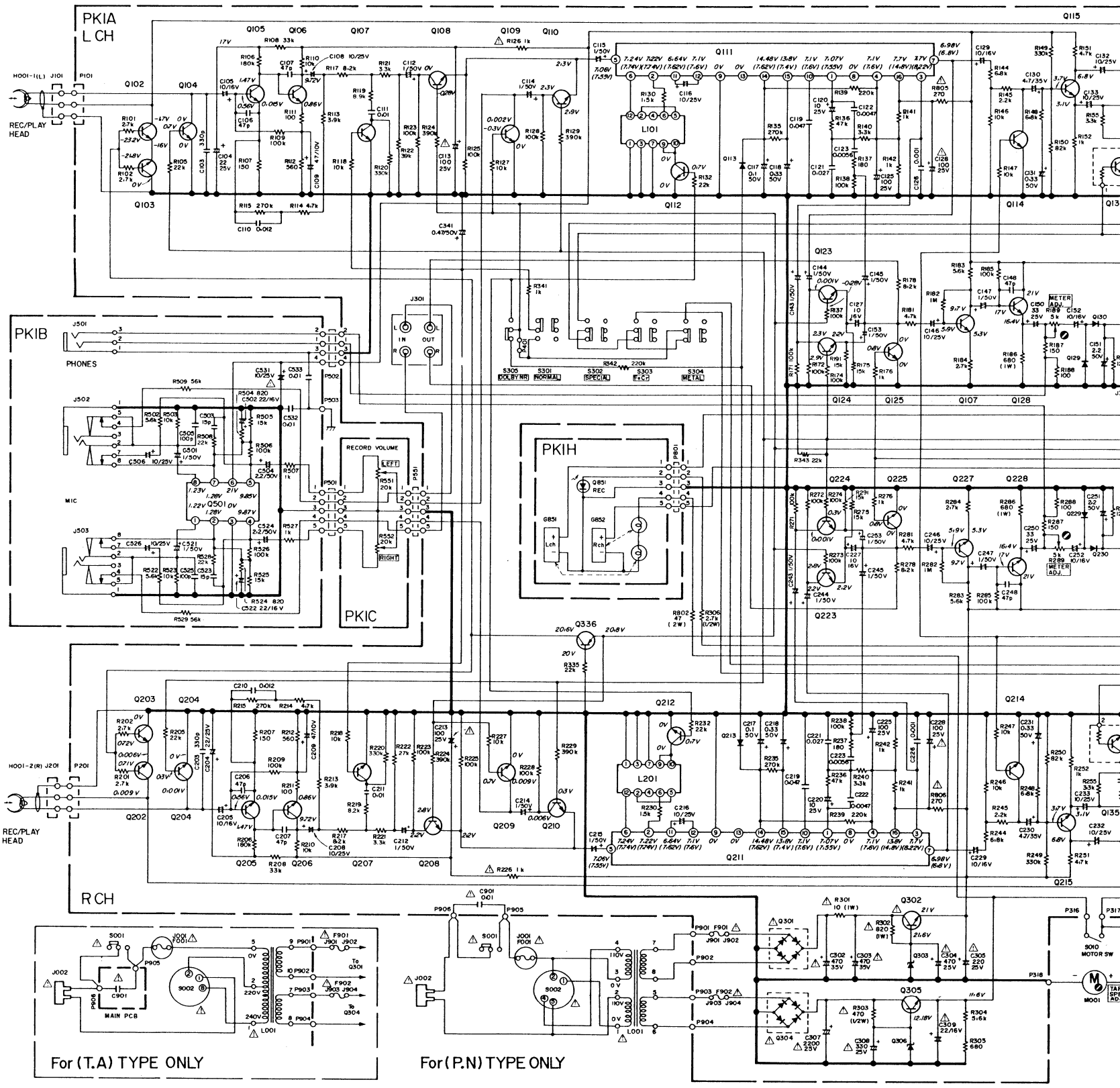
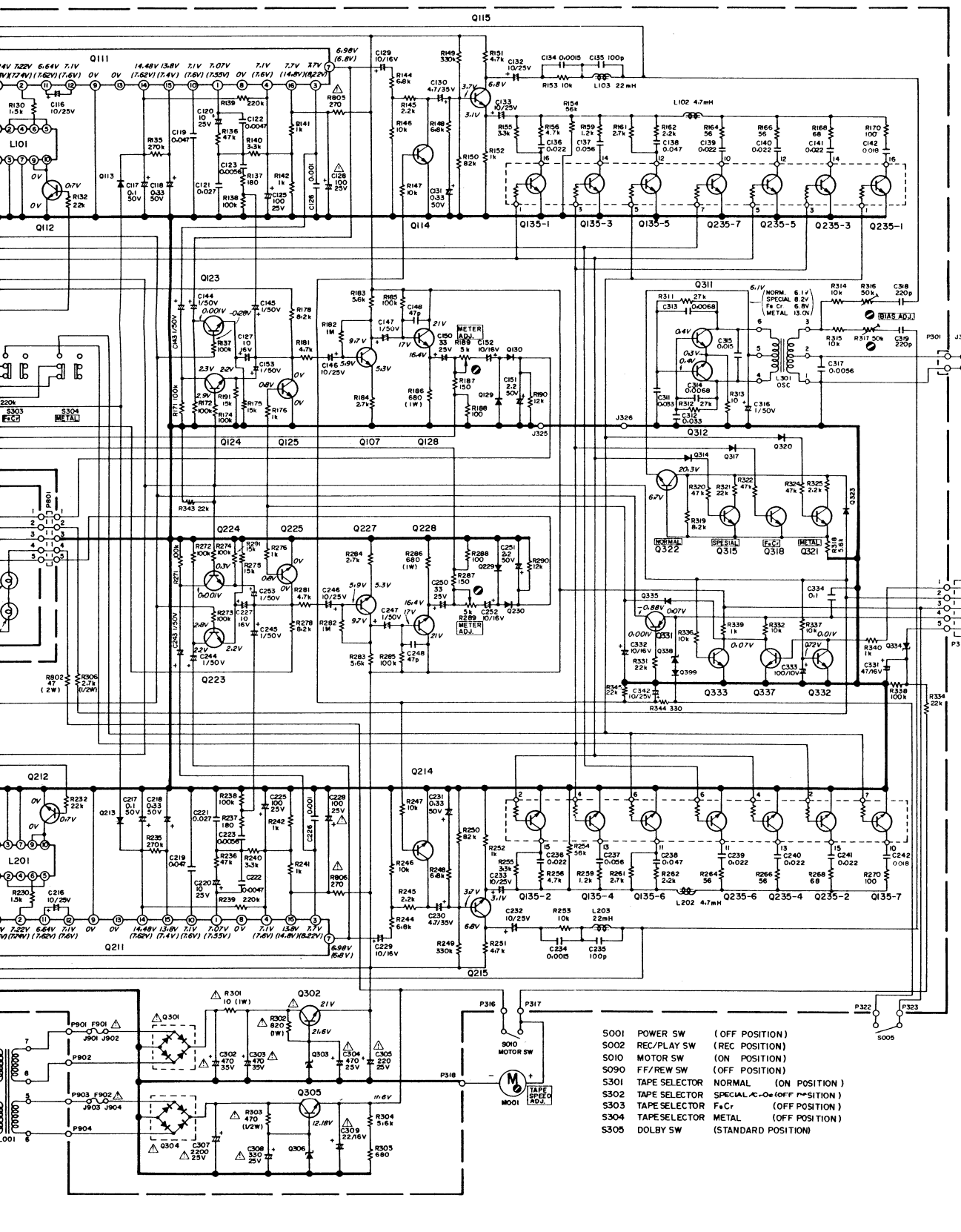


Note on safety: The parts marked with ⚠ are important parts on the safety. Please use the parts having the designated parts number without fail.

SCHEMATIC DIAGRAM FOR Model SD1010



Q102, Q103, Q202, Q203
Q311, Q312
HT31384IR0
2SC1384(R)

Q104, Q107~Q110
Q112, Q114, Q123~Q125
Q127, Q204, Q207~Q210
Q212, Q214, Q223~Q225
Q227, Q315, Q318
Q321, Q332, Q333, Q337
HT32634IS0
2SC2634(S)

Q105, Q106, Q115, Q128
Q205, Q206, Q215, Q228
HT32634IT0
2SC2634(T)

Q302, Q322
HT40313IE0
2SD313(E)

Q305
HT40313IF0
2SD313(F)

Q331, Q336
HTI0750IE0
2SA750(E)

Q111, Q211
HCI0007270
NE646B

Q113, Q213, Q314
Q317, Q320, Q335, Q339
HD2000I210
IS2473(C)

Q129, Q130, Q229, Q230
HD10004020
0A91

Q301
HD20021290
SIVB20

Q303
HD30048090
WZ210

Q304
HD20026080
RBI5I

Q306
HD30024090
WZ120

Q338
HD30031090
WZ081

Q323
HD20022100
10EI-FA

Q851
HI10006060
SR531D

Q334
HD30031090
WZ052

Q135, Q235
HCI0052050
TD-62504P

Q501
HC10006090
NJM387

S001	POWER SW	(OFF POSITION)
S002	REC/PLAY SW	(REC POSITION)
S010	MOTOR SW	(ON POSITION)
S090	FF/REW SW	(OFF POSITION)
S301	TAPE SELECTOR	NORMAL (ON POSITION)
S302	TAPE SELECTOR	SPECIAL/Cr-Oe (OFF POSITION)
S303	TAPE SELECTOR	Fe-Cr (OFF POSITION)
S304	TAPE SELECTOR	METAL (OFF POSITION)
S305	DOLBY SW	(STANDARD POSITION)

Components and wiring are subject to change for modification without notice.

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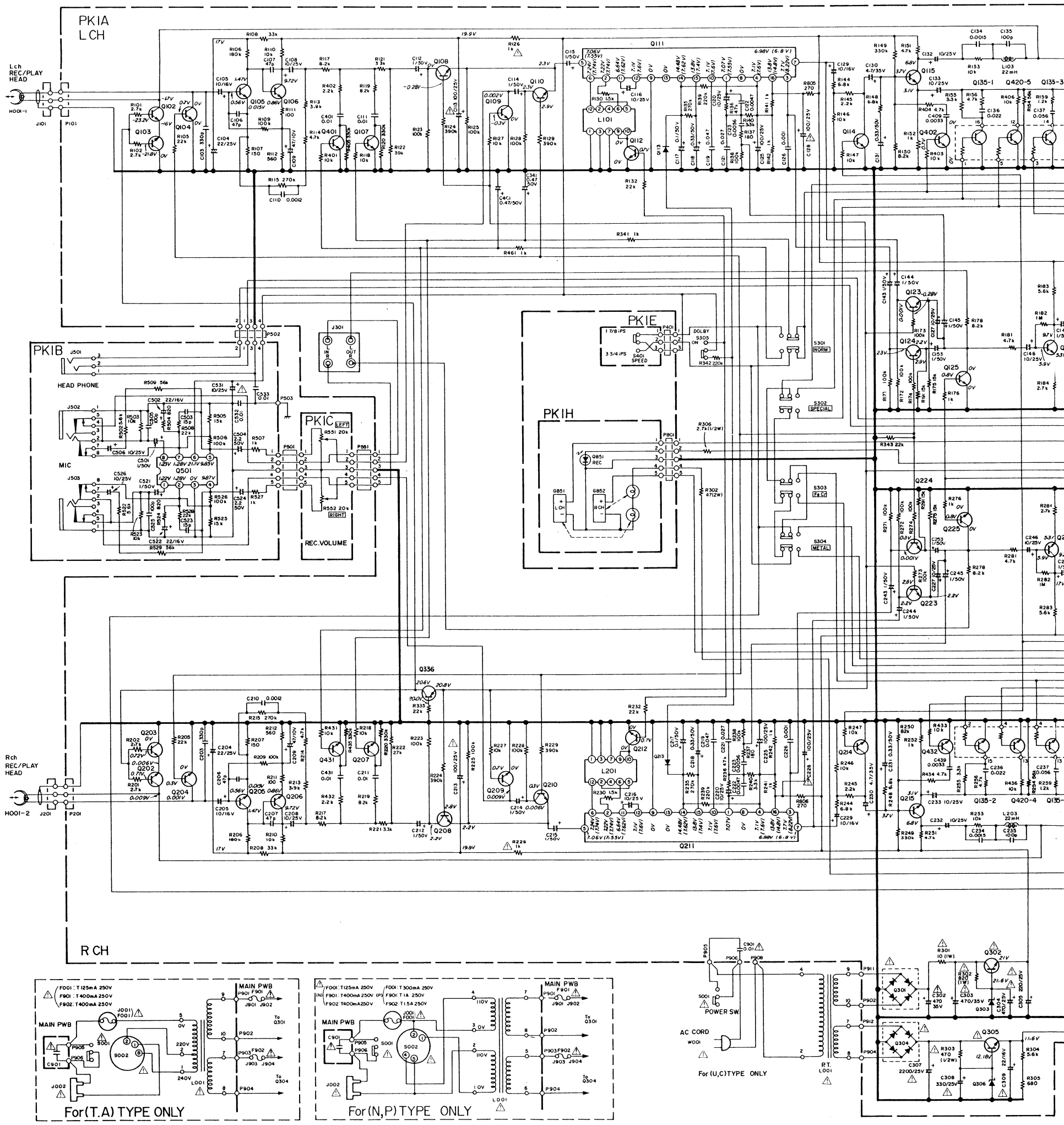
SCHEMATIC DI

Q102, Q103, Q202 Q311, Q312, Q203 HT313841R0 2SC1384(R)	Q104, Q204, Q107∿Q110, Q207∿Q210, Q112, Q212 Q114, Q214, Q123∿Q125, Q127, Q227, Q223∿Q225 Q315, Q318, Q321, Q332, Q333, Q337, Q401, Q402 Q431, Q432, Q471, HT326341S0 2SC2634(S)	Q105, Q205, Q106, Q206 Q115, Q215, Q128, Q228 HT326341T0 2SC2634(T)	Q111, Q211 HC10007270 NE646B	Q113, Q213, Q314, Q339 Q317, Q320, Q335, Q461 Q463, Q465, Q472, Q473 HD20001210 IS2473C	Q338, Q474 HD30031090 WZ081	Q129, Q229, Q130, Q230 HD10004020 0A91 Q306 HD30024090 WZ-120	Q135, Q235, Q420, Q440 HC10052050 TD62504P Q331, Q336 HT10750IE0 2SA750(E)	Q301 HD20021290 SIVB20 Q302, Q322 HT403131E0 2SD313E	Q303 HD30 WZ21 Q304 HD20 RB151



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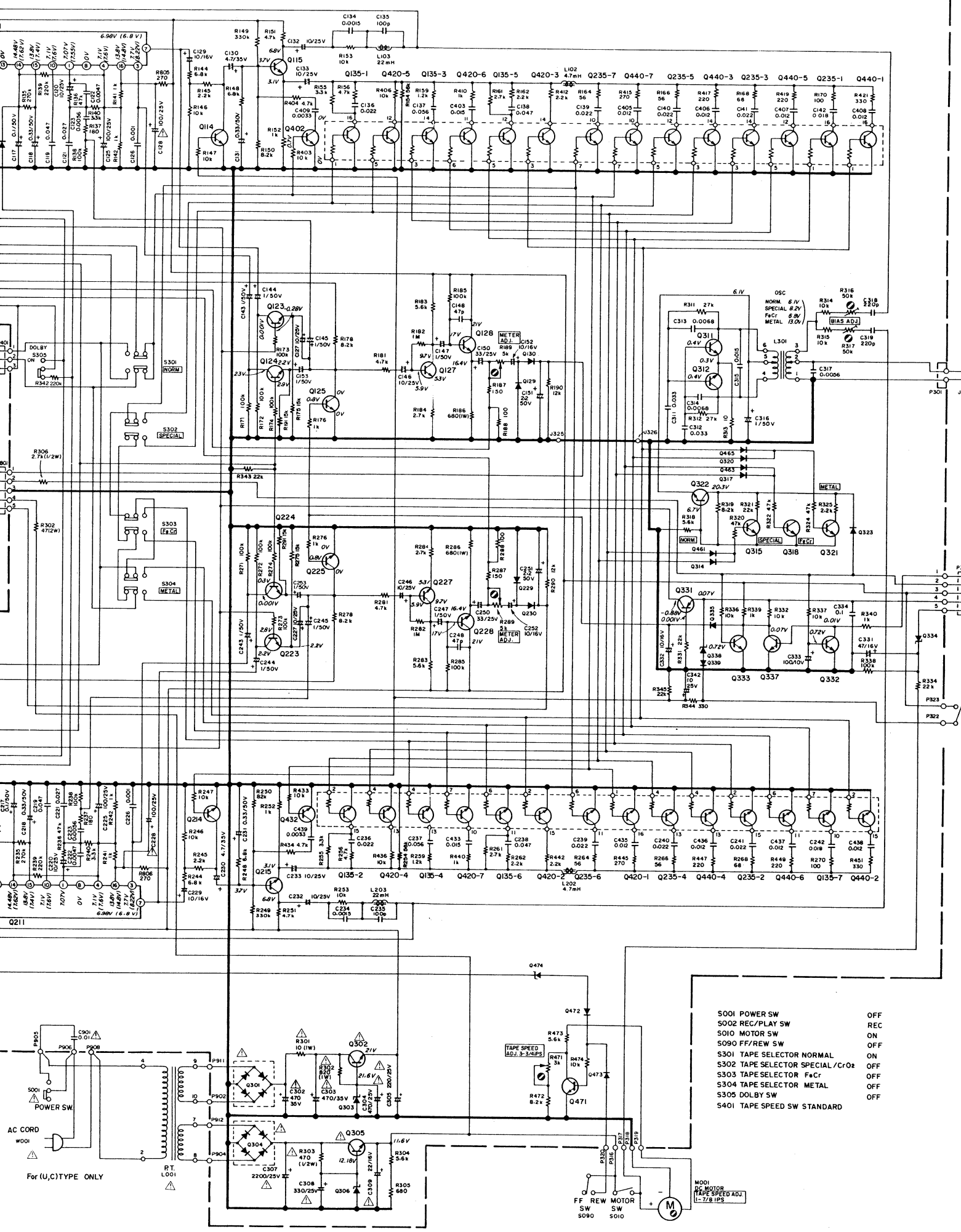
Components and wiring are subject to change for modification without notice.

SCHEMATIC DIAGRAM FOR Model SD1020

338,Q474 D30031090 WZ081	Q129,Q229,Q130,Q230 HD10004020 0A91	Q135,Q235,Q420,Q440 HC10052050 TD62504P	Q301 HD20021290 SIVB20	Q303 HD30048090 WZ210	Q334 HD30033090 WZ052	Q323 HD20022100 10E1-FA	Q851 HI10006060 SR531D
	Q306 HD30024090 WZ-120	Q331,Q336 HT107501E0 2SA750(E)	Q302,Q322 HT403131E0 2SD313E	Q304 HD20026080 RB151	Q305 HT403131F0 2SD313F	Q501 HC10006090 NJM387	



iring are subject to change for modification without notice.

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SCHEMATI

Q102, Q103, Q202
Q203, Q311, Q312
HT31384IR0
2SC1384(R)

Q104, Q204, Q107~Q110, Q112, Q114, Q123~Q125, Q127, Q207~Q210
Q212, Q214, Q223~Q225, Q227, Q315, Q318, Q321, Q332, Q333
Q337, Q401, Q402, Q431, Q432, Q471, Q701, Q704, Q707, Q708
HT32634IS0
2SC2634(S)

Q105, Q205, Q106, Q206
Q115, Q215, Q128, Q228
HT32634IT0
2SC2634(T)

Q111, Q211
HC10007270
NE646B

Q113, Q213, Q314, Q601, Q611, Q621
Q317, Q320, Q335, Q461
Q463, Q465, Q472, Q473, Q339
HD20001210
IS2473C

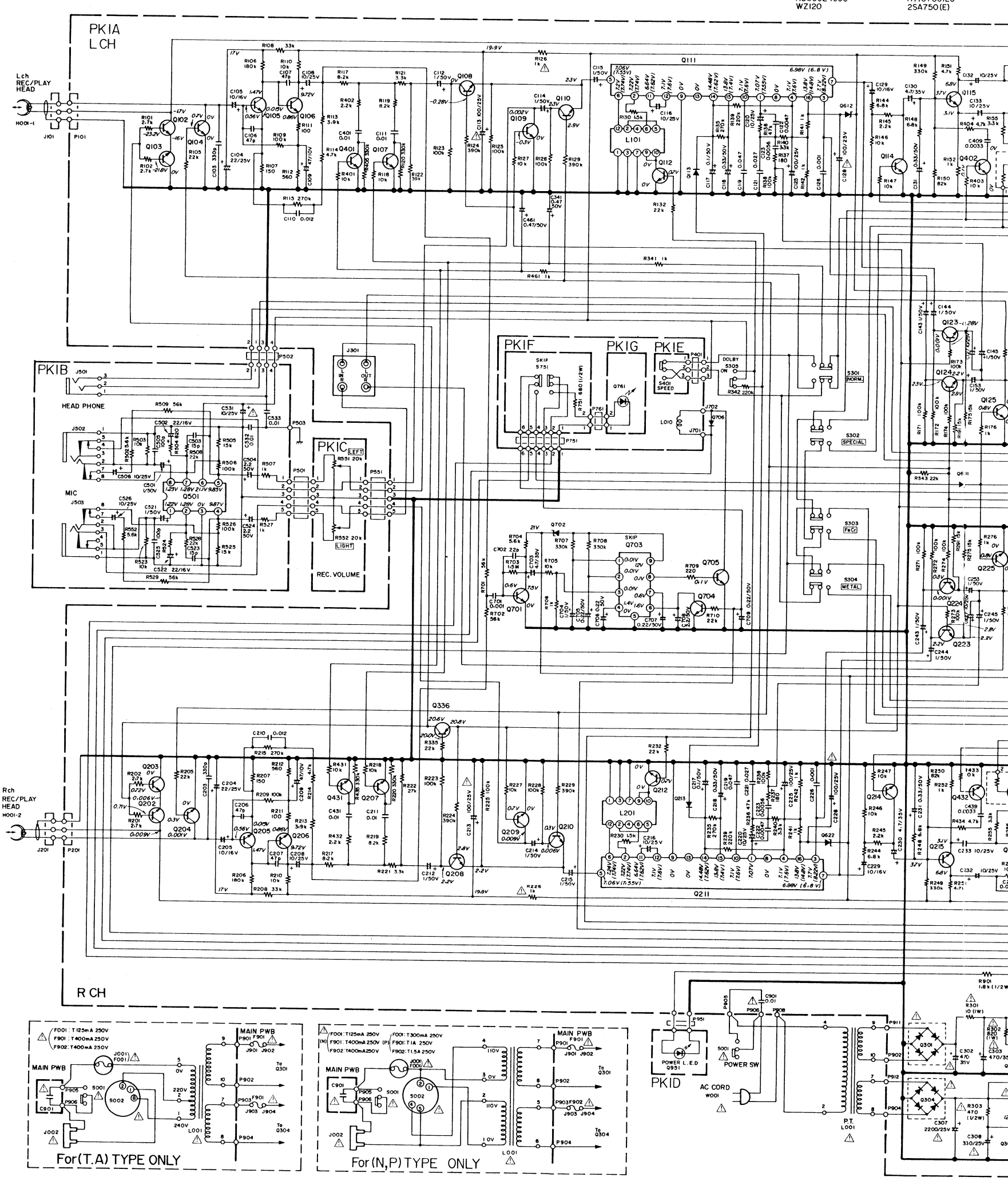
Q338, Q474, Q612
Q622, Q702
HD30031090
WZ081

Q129, Q229, Q130, Q230
HD10004020
0A91

Q306
HD30024090
WZ120

Q135, Q235, Q420, Q440
HC10052050
TD62504P

Q331, Q336
HT10750IE0
2SA750(E)

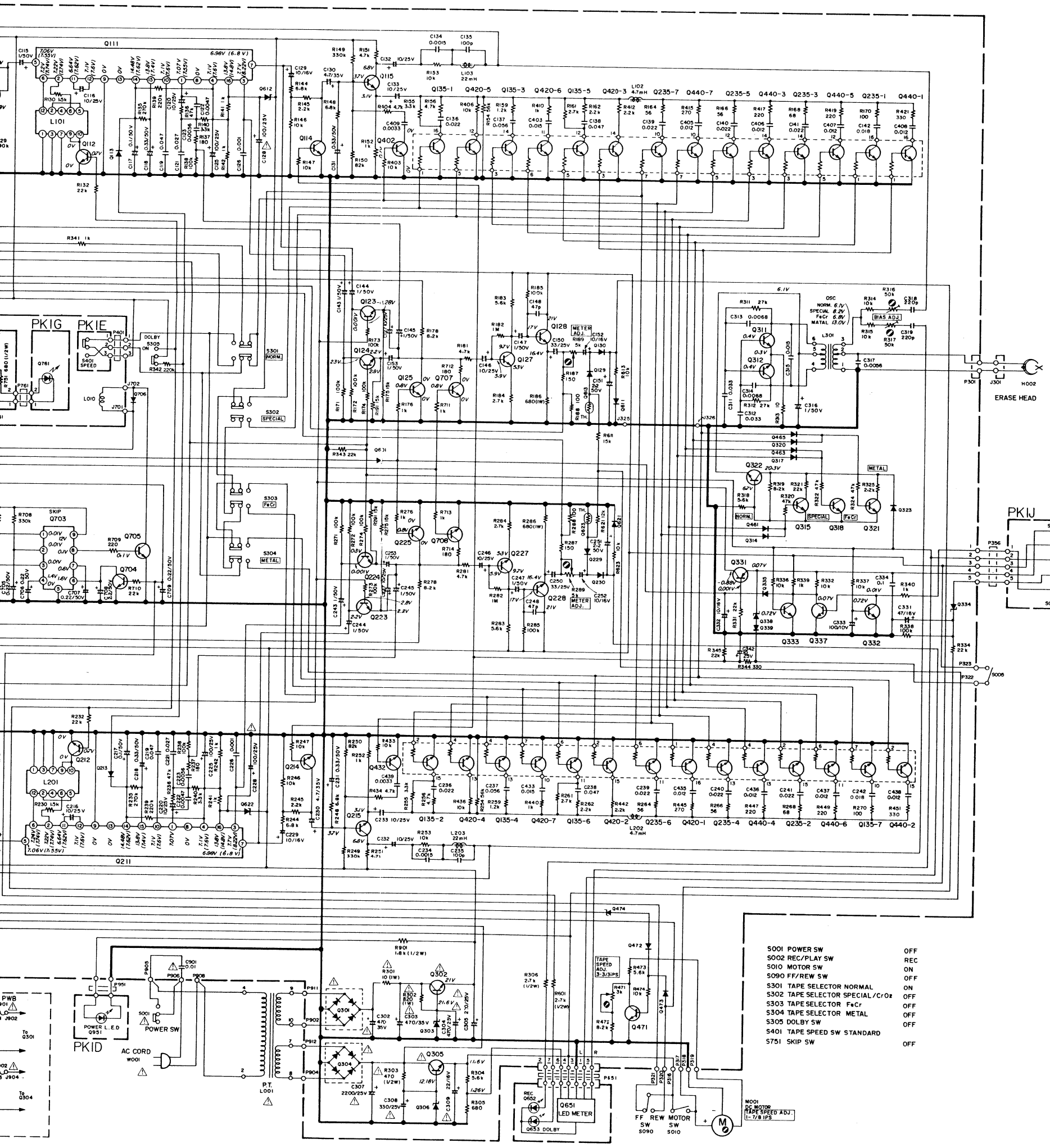


Note on safety: The parts marked with ⚠ are important parts on the safety. Please use the parts having the designated parts number without fail.

Components and wiring are subject to change for modification without

SCHEMATIC DIAGRAM FOR Model SD3020

Q213,Q314,Q601,Q611, Q621 Q320,Q335, Q461 ,Q465,Q472,Q473,Q339 0001210 73C	Q338,Q474,Q612 Q622,Q702 HD30031090 WZ081	Q129,Q229,Q130,Q230 HD10004020 0A91 Q306 HD30024090 WZ120	Q135,Q235,Q420,Q440 HC10052050 TD62504P Q331,Q336 HT107501E0 2SA750(E)	Q301 HD20021290 SIVB20 Q302,Q322 HT403131E0 2SD313E	Q303 HD30048090 WZ210 Q304 HD20026080 RB151	Q334, HD30033090 WZ052 Q305 HT403131F0 2SD313F	Q323,Q706 HD20022100 10E1-FA Q501 HC10006090 NJM387	Q613,Q623 HH00003030 SDT-04 Q651 HI11203320 LT-1008	Q652,Q653 HI10008320 GL9PR2 Q703 HC10020210 BA336	Q705 HT313831C0 2SC1383(R) Q761 HI10007030 SLP232B	Q951 HI10009020 LN26RP



Components and wiring are subject to change for modification without notice.